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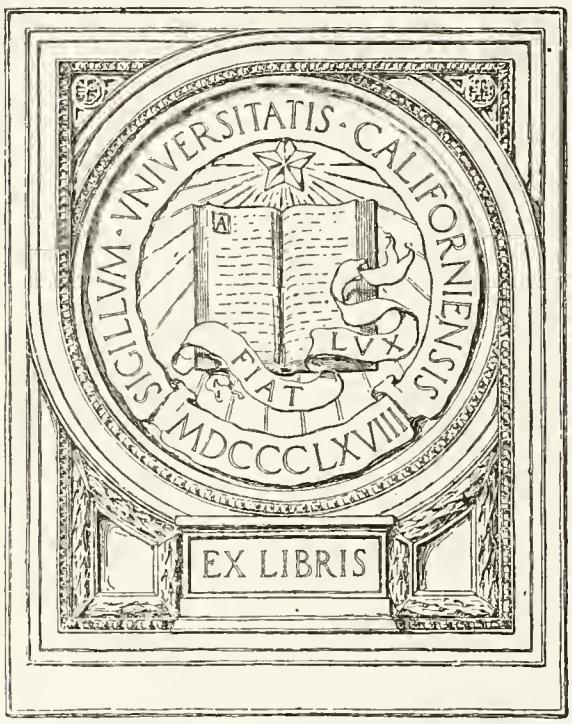

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THE EYE AND NOSE AS CAUSATIVE FACTORS OF BAD HEALTH.*

By JOSEPH A. WHITE, A. M., M. D., Richmond, Va., Ex-President Medical Society of Virginia.

Physicians are often confronted with annoying and distressing pathological conditions, the etiology of which is very obscure and among the multiplicity of other probable causes, they might sometimes solve the problem that has them guessing, if they would take into consideration the possibility that the eye, or the nose might be at the bottom of the trouble.

The internist and the neurologist, the orthopedist and the gynecologist would all have a better chance of cracking some of their hardest nuts, if they would sometimes recognize that our bodies have eyes and noses, as well as teeth, lungs, hearts, livers, spleens, kidneys, sexual organs, brains and spinal columns. All these latter are gone over thoroughly by physical and laboratory methods, and the examiner is often still at sea.

The tonsil craze graduated the throat into the routine examination, but the eyes and nose are left out of consideration except in rare cases. Of course if there are head symptoms, and especially headache, the *eye* is sometimes thought of as a possible factor, but the nose, "no"—not if it can be breathed through, or unless the patient complains of it.

As soon as the general profession became aware of the relationship of tonsil troubles to heart infections, arthritis, glandular defects, etc., it became like a raging lion seeking whom it might devour, and no tonsil is allowed to escape destruction in anyone at any age from the cradle to the grave. If a doctor ever sees a tonsil (fortunately lots of them cannot be seen without the most careful scrutiny), the unfortunate victim will have to go into hiding, if he wants to escape mutilation.

I have aired my views on this subject several times, and I think the reaction has already set in, although a little more conservatism might be beneficial. Some years ago, the destruction of the turbinate bodies was almost as bad among rhinologists, although it never extended to the general profession as did the tonsil craze. Long since, a reaction took place, and the pendulum swung too far the other way, to the actual neglect of the important influence nasal affections could have on the general economy. From blaming the nose for every affection that flesh is heir to, it is often overlooked as a causative factor, even when it is clearly to blame.

The eye, on the contrary, has always held a prominent place, as a causative factor in certain conditions, such as headache, in the minds of thoughtful investigators, and sometimes given consideration by some, when wandering in the unknown regions of neurology, on the principle of any port in a storm. Sometimes it proved a saving haven, sometimes it wrecked all hopes in that directions, for want of a good pilot.

Many morbid conditions of health are found at all ages, from young school children to elderly people, due to no other cause than defects of the eyes, and eye muscles, or to pathological changes in the nasal passages, such as headache, neuralgia, migraine, nausea, vertigo, so-called nervous dyspepsia, malnutrition, general nervous symptoms, symptomatic chorea, pains in the back, at the end of the spine and in the mastoid, hysteria, insomnia, functional cardiac symptoms with rapid pulse, dysmenorrhoea, cough, reflex bronchitis, asthmatic breathing, spinal curvature, etc.

Now, some of you may think this list is a bit far-fetched, but every item in it has been

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demonstrated by irrefutable facts, and I doubt if the list is at all complete. Some even include hay fever, epilepsy and other forms of neuroses, which may belong to the above catalogue, but have not been sufficiently demonstrated.

Many of these conditions, especially those found in so-called neurotic subjects, may be due to intestinal auto-intoxication, to nephritis with high pressure, to cardio-vascular conditions, to certain gynecological diseases, or to syphilitic infection, without eye or nasal troubles, but it is wise to bear in mind that these may also produce them, as with the exception of spinal curvature, the most of them are functional disturbances, and not organic diseases.

The bearing of eye and nasal affections on the general health in its many aspects, has been taken into consideration by most of our health boards, in the efforts they are making to have all the school children's eyes and noses examined, as well as their teeth. 17 per cent. of school children have very bad defects of the eyes, and 33 per cent. defective eyesight of greater or less degree. Add to these those that have latent defects of refractive or muscular imbalance, that only could be detected by the most painstaking examination, and the percentage would be much higher. These latter are the worst cases, because these undetected defects of the eyes are allowed to go on uncorrected, until serious impairment of health, with underlying neurotic troubles, have developed.

In addition to the eye defects, we must consider the large number of cases with adenoids, nasal stenosis, and throat troubles, to say nothing of bad teeth, and we may wonder how any of the children manage to keep in good healthy condition.

Eye strain does so much harm in so many ways, that it should be one of the first things to consider, when a child that is going to school shows any signs of ill health, or complains of not feeling well, and especially if there is any head discomfort, or stomachic derangement. Children put up with a great deal before making complaint, for fear of being kept from their schoolmates, or playmates.

A cursory examination of the eyes may show vision and accommodation apparently normal, and no discernible physical defect. Careful examination, under the influence of a mydriatic, will often reveal latent refractive, or muscular errors in cases with apparently nothing the matter. Not only opticians, but many oculists, overlook such defects, especially if of low grade—because they do not take the time to do the work properly, and the cases are passed on by the specialists as having no trouble with the eyes, leaving some physician to grope in the dark, after an apparently undiscoverable cause of ill health, which may lay the foundation for a ruined life, or ruined career, until the effects are so far reaching, and so complicated, that even the proper correction of the eye trouble, later on, may be only palliative, and not curative. As Dr. Gould once said: "Spectacles won't raise the dead." Such cases are often referred to a specialist who overlooks the trouble and reports a negative result.

In early life is the time to correct such defects, before the appalling effects become chronic and incurable. Many people, with eye defects that should be corrected, are blessed with superb health and ability to overcome such defects, without serious consequences, and with only occasional discomfort, but as they grow older the time comes when unpleasant consequences that may affect the general health will manifest themselves, and the eyes will be the last thing thought of, as a factor to be considered, because they have always had such perfect vision.

An orthopedic surgeon may smile broadly if it is suggested that eye strain may cause spinal curvature, and still it is not half as far-fetched as some other causes assigned for it. In early school life, when the bones are soft and easily distorted, the tilting of the head, due to slanting astigmatism, to level objects, will cause elevation of one or other shoulder, according to the direction of the axis, and if kept up long enough will cause a curvature of the spine to one side or the other. Is not this a rational conclusion? If the axis in one eye is vertical and in the other at 105° or 120°, the head tilts to the left and the right shoulder is elevated—if at 75° the head tilts to the right, and the left shoulder is elevated. The same thing obtains, if one eye is higher than the other—bad position at a desk may do this also—and when both go together there is little doubt of the result.

As for the other morbid conditions mentioned above, that are caused by optical and muscular anomalies, I rarely pass a day that I do not come into contact with one or other of them. The starting point in nearly all of

them is head discomfort, not necessarily in the eyes, for the eyes, strange to say, are often not even referred to in the complaint. I doubt if there is a more universal symptom among human woes than headache, in one form or another, and if its origin is not discovered and corrected, its constant recurrence affects the whole economy, bringing in its train all kinds of morbid phenomena with resulting nervous breakdown, so that the physician in charge regards it simply as one of a complex of symptoms, part of a syndrome and not a cause.

Let any of you try the simple experiment of putting on a pair of spectacles which will artificially produce a slight astigmatism and wear them awhile. You'll soon find yourselves suffering from headache, giddiness, nausea, etc., and if kept up awhile you'll have enough symptoms of digestive or nervous disturbance, to need the advice of an internist or neurologist.

The adaptation of lenses, for the correction of many refractive and muscular anomalies, is an art, requiring exact knowledge of physiological optics, as well as of the physiology and morbid anatomy of the eye, and neither the optician nor the medical profession at large nor the specialist at times recognizes this fact.

In consequence, most people who wear glasses have only a partial or imperfect correction of their refractive errors, and as the glasses do not give relief, they conclude their eyes have nothing to do with their ailments, especially if they get practically normal vision. To say nothing of opticians with their partial knowledge of the subject, and their ignorance of eye diseases, many oculists are to blame for this, as they do not give the amount of thought or time many of these cases require—being either careless, neglectful or incompetent. Most of them overlook low grade astigmatism, and never think of the necessity of perfect correlation between the accommodative effort and the convergence, if the eyes are to work together without trouble.

In a short paper like this, which is only intended to call your attention to the fact that eyes and noses are to be considered when investigating the causes of various morbid phenomena, there is not time to go fully into the subject, but I could quote hundreds of cases from my case book to prove the truth of my statements. Many of these cases came to me from the practice of my personal friends in Richmond who could corroborate my remarks.

I have several times presented this subject to this society and others, during the last twenty years, but truth is a plant that grows slowly, and it takes a long time to branch into a full blown tree that all may see.

When the perfect correction of a refractive error or muscular imbalance fails to give relief to the head symptoms, the nose should be examined, and it would be better if the nose were also examined at the same time as the eyes. You all take the throat and tonsils into consideration, because the extensive literature on the subject has made not only the profession, but the laity as well, familiar with this possible source of trouble, but many people suffer from the effects of nasal defects, of which they are unaware.

If they are mouth breathers, or have a discharge from the nose, or secretion constantly falling into the throat, they are fully alive to the fact, they have, what is advertised so freely by quack remedies, as a dreadful trouble, called "*catarrh*." Even then, they rarely associate this with headache, frontal or occipital, with neuralgic pains about the head or face, with an annoying cough, with bronchitis, or with other nervous reflexes, that have manifested themselves.

Is not the nose a natural field for exploration in these cases, when we consider, how richly supplied it is by the trigeminus and the offshoots from the spheno-palatine ganglion? An absolutely unsuspected and unknown deviation, from the normal condition of the nasal passages, could set up enough local irritation, to cause serious reflex phenomena, of which headache is the most frequent. This may vary from slight attacks of pain to agonizing suffering. Usually it is unilateral but may involve both sides. The pain may be in the teeth, the nose, the ear and extend down to the shoulder, and sometimes to the eyes. The repetition of the pain, or its continuance, may affect the patient, physically and mentally, until he is in a deplorable condition.

Examination of the nose may show so little departure from the normal, that the cause is often overlooked, even by a rhinologist, especially, as there is no secretion of pus present in these cases. It is oftenest due to a slight pressure exerted by contact of the middle turbinate with the septum, which produces a constant irritation of this sensitive area, and occasionally it may be due to an irritable condition of

the spheno-palatine ganglion, producing a neuralgia somewhat similar to tic douloureux. If the former, relief is obtained by shrinkage or amputation of the middle turbinate; or if the latter, by injection of phenolalcohol into the ganglion, as shown by Dr. Sluder.

If there is pus present, the pain is due to pathological changes in the ethmoid, frontal, or maxillary sinus, but these cases are easier of diagnosis, and the cause of the trouble more promptly determined.* If not relieved in time, complications of various neurotic disturbances manifest themselves, which may be confounded as the cause, instead of the effect, and the attendant be thus led astray in his diagnosis.

I do not wish to be understood as recommending empirical removal of the middle turbinate, because of headache, pain in the face or neuralgia of uncertain origin. I am as much opposed to this, as to this latter day useless slaughter of the tonsils, because people are so unfortunate as to have such organs.

Like the tonsils, the turbinates have some function, which, fortunately, we know more about, than about that of the tonsils, and they should not be sacrificed unnecessarily, as they act as a bulwark against the entrance of impurities into the deeper nasal spaces, and the air passages.

In many cases of sinus diseases, its removal is imperative to allow free entrance to, and drainage from, the sinus. When it is sufficiently hypertrophied to obstruct the nasal passages, or make pressure on the septum, it should be sufficiently reduced in size, to allow free breathing, or relieve the pressure, whether by acid application, by the proper use of the cautery, or by ablation, makes no difference.

When it is the origin of polypoid growths, as it frequently is, it should be removed entirely, to prevent regrowth of the polyps. When it blocks one side with a deflected septum, it is much better to restore the patency of the nostril, by removing the turbinate, than by doing a submucus operation, about which many rhinologists have gone daft, and which operation has done more harm than it has done good, because, whilst necessary in some cases, it is frequently performed when it should not be done.

But when we are considering removal of the middle turbinate, because of headache, face ache, or reflex neurotic manifestations, we must take great care to determine if it is the offending agent, or the cause of the reflex manifestations, before deciding to operate, as the nose is only one of a number of causes that could produce the same effects.

The worst cases are those with organized adhesions between the turbinate and septum, because, after thorough separation, it is difficult to keep the narrow passage open, and the after treatment is sometimes tedious. If successful, however, it well repays the time and expense.

Of course the local treatment is not everything. Even when the original cause, whether in the eye or nose, is corrected, the unfortunate sequelae of its previous neglect have to be cared for, appropriate remedies for the various resulting constitutional disturbances utilized, and the general health built up by all the means at our disposal.

200 *East Franklin Street.*

*Antrum trouble, however, sometimes gives great annoyance with very obscure symptoms relative to the antrum itself.

MENINGITIS.*

By L. T. ROYSTER, M. D., Norfolk, Va.

Meningitis is a common disease of childhood, being particularly frequent during the first three years of life. In most instances it is a secondary infection. However, certain forms may probably be of primary origin. According to Holt, the infections in the order of their frequency are, exclusive of epidemics, as follows: Tubercle bacillus, pneumococcus, meningococcus (sporadic), staphylo and streptococcus, influenza and colon.

The various forms of meningitis have many symptoms in common, and a definite picture of any specific type cannot be drawn, yet there are suggestive symptoms which point to certain types. In diagnosing any case of meningitis, the general symptom complex, and not any one or more symptoms must be relied on.

There are two general types of meningitis, the ordinary epidemic cerebro-spinal type, due to the meningococcus, and the tubercular type. All other clinical varieties are modifications of these two. The type that has received more attention than the others is the cerebro-spinal. This type assumes epidemic proportions at intervals, and, in consequence, has been studied more intensively. The most exhaustive study of this form is by Sophian, who made an ex-

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

tensive observation of the Texas epidemic in 1912.

Epidemic Form.—The symptoms of this may be divided into two stages, the prodromal or accumulative stage and the active stage. The important symptoms of the accumulative stage, according to Sophian, are: 1st, History of exposure during epidemic; 2nd, violent headache; 3rd, repeated expulsive vomiting; 4th, herpes; 5th, petechia; 6th, photophobia; 7th, hyperesthesia; 8th, dilated or sluggishly acting pupils; 9th, tenderness at angle of jaws, and, 10th, signs of hydrocephalus which are: a, bulging fontanel, or Macewen's sign, or both, and b, irregular pulse and respiration. This stage of the disease presents in general the foregoing symptoms, lasting from a few hours to thirty-six hours, when it rapidly goes to the second or active stage, which may be ushered in by a chill or convulsion (more common in children).

In this stage we may have many symptoms referable to meningeal irritation, hydrocephalus, dilatation of the ventricles with fluid. Headache is very nearly constant, and is usually frontal or vertex, occasionally occipital. There is usually rigidity of the neck and hyperesthesia, and not infrequently general convulsive twitchings. Brudzinski's neck sign is the most constant symptom, while the contralateral and reciprocal are second in frequency. Kernig's sign is variable, and not important under two years. Babinski's is also variable.

There is almost always some irregularity in the breathing or the pulse. In the case of the breathing, this is Cheyne-Stokes or Biot's. The deep sighing respiration is said by some observers to be diagnostic. In young children the bulging of the fontanel is of marked diagnostic value, while Macewen's sign is generally present. Fever is variable, usually rising quite high—102 to 105—but varying like all other symptoms. In the fulminating form there may be a very high or a subnormal temperature, while the chronic type may run practically an afebrile course. The course of any of the forms of the disease, except the fulminating, depends on the time of diagnosis and the instituting of treatment. In the non-treated cases, especially in the sporadic form, it may vary from the fulminating type, which lasts from a few hours to a few days, and die in coma, to the chronic basilar type, which may last for months and finally die of exhaustion. In those treated with the Flexner serum, the case may last from four or five days to two weeks.

Tubercular Meningitis.—The other distinct type of meningitis is that caused by the tubercle bacillus. This is always secondary to a focus elsewhere in the body. It may follow a pulmonary infection, rupture of a gland at the root of the lung, or a generalized tuberculosis or an involvement of the bones or joints. Infection from the last two causes is usually in older children.

The clinical history of tuberculous meningitis is quite different from the type just described. The onset is very gradual and indefinite in character. The most common symptom is vomiting, which is usually more or less projectile in character and without any assignable digestive cause, though this is most frequently the diagnosis. There may be at this stage, however, other cerebral symptoms, such as headache, a transient drowsiness or a very transient strabismus. All of these symptoms may clear up completely and nothing more be thought of the matter until it is noticed that after a period of time varying from a few days to two weeks, the child displays a rather marked disinclination to play, or is irritable, or the nature or the disposition appear changed so that the mother notices this quite decidedly. Or, on the other hand, the initial symptoms may give place to a slight paralysis of the ocular muscles or the muscles of the face, or one upper extremity. And even these may pass off and the child again appear lively, and may get up and go about (sometimes the child may do this after the tubercle bacillus has been found in the spinal fluid), thus offering false hope of possible recovery. Eventually, however, after one, two or three weeks, drowsiness returns and rapidly deepens to stupor then coma, and a slight rigidity of the neck is noticed. Reflexes which may have been exaggerated or normal in the beginning are now abolished. Babinski and Brudzinski signs are usually present, while strabismus is rarely absent toward the end of the case. The patient dies in coma from exhaustion, or may die in terminal convulsions. Temperature throughout the disease is usually slightly elevated, except toward the end, when we have a terminal hyperpyrexia. These two types are the main clinical types of meningitis.

Pneumococcus Meningitis.—The meningitis occurring during the course of a pneumonia re-

sembles the epidemic form clinically, though rarely lasting more than five or six days. Those cases due to a primary pneumococcus infection may closely resemble the tubercular form clinically and last for several weeks, in fact, may be indistinguishable except by lumbar puncture.

Influenza Meningitis.—Influenza meningitis is rare—that is, meningitis due to pure culture of influenza bacillus. However, meningitis due to a mixed infection coming on during the course of influenza is not so rare. It is rapidly fatal.

Meningitis due to pyogenic organisms is not uncommon during the course of any pus infection, particularly the middle ear or mastoiditis. These are usually rapidly fatal.

Typhoid and Colon Meningitis.—Typhoid and colon meningitis have been described, but are exceedingly rare.

Chronic Basilar Meningitis.—This type affects the membranes, particularly at the base of the brain, and in the majority of instances follows the cerebrospinal epidemic form, occasionally the sporadic form. It is also rarely caused by syphilis.

Syphilitic Meningitis.—There is also a syphilitic meningitis, associated with gummatous deposits in the dura. This is also called syphilitic pachy-meningitis.

Meningitis of the New Born.—This has been best described by Koplik. Within the first few days of life the infant develops a sudden high temperature, and has several convulsions. These are usually at irregular intervals and may extend over two or three days, the temperature coming down gradually. The convulsions give way to muscular twitchings, fretfulness and restlessness. The child may die in a few days, or all symptoms may cease, and there may pass a period of remission for several weeks or a month, when the well known symptoms of meningitis recur and the child dies in the course of a typical meningitis.

This condition is to be differentiated from the intracranial hemorrhage of the new born. The latter condition usually has one convulsion, pressure symptoms and cyanosis. Lumbar puncture differentiates the two conditions readily. In the one instance, we have infected spinal fluid, and in the other bloody serum.

Meningismus.—This term has been used to designate the meningeal irritation with symptoms of hydrocephalus, which occur in the course of many infectious and non-infectious conditions. The symptoms are toxic rather than septic, and are produced by an increase of spinal fluid.

This condition is probably due to the action of certain toxins on the walls of the vessels composing the choroid plexus, causing an outpouring of serum. This condition is frequently indistinguishable from the true meningitis, except by lumbar puncture. I have seen the full group of meningeal symptoms presented by a meningismus, which showed normal spinal fluid, though, usually, greatly increased in amount. Practically all forms of meningitis are uniformly fatal, with the exception of that due to the meningococcus. The mortality of this depends on the time of diagnosis and prompt resort to Flexner's serum.

Recoveries from all forms have been reported by reliable observers, and it may be presumed that more recoveries occur than have been heretofore supposed.

A number of unusual cases have occurred in the course of my practice which are deserving of brief report:

[1]An infant two months old had a middle ear infection which was opened and drained. In spite of this, meningitis developed. Lumbar puncture drew out about 2 cc. of thick purulent fluid, which contained a pure culture of streptococcus mucosus. A number of punctures were made, each one showing clearer fluid and in larger amounts until the fifth puncture, which showed about 30 cc. of sterile fluid. This child is now two years old, and apparently perfectly normal physically and mentally.

[2]A child two and a half years of age, with pneumonia, about the time of the crisis developed meningeal symptoms. Lumbar puncture contained pure pneumococcus culture. Child recovered. For a while after recovery its mentality was very much impaired. At the present time, four years of age, it is apparently entirely normal mentally. A short while after recovery the child was nearly blind, due to choked discs. At the present time the left eye has a slight vision, and the right eye a fair degree of vision. Both nerves are quite white, the right one more so than the left, but

1. This case was seen in consultation with Dr. C. J. Andrews, of Norfolk, and is reported through his courtesy.

2. This case was seen in consultation with Dr. M. P. Doyle, of Norfolk, and is reported through his courtesy.

both of them contain many vessels of varying size.

A child of nine years was admitted to the hospital on Sunday, with the history of having been perfectly well up to Friday at 2:00 P. M., when he had a convulsion. He had been unconscious ever since, and was now comatose with irregular pulse and respiration. This continued until Monday morning, when he died. Autopsy showed meningitis at the base of the skull, and a caseous gland at the root of the lung. Diagnosis, tubercular meningitis.

A child of four years had an abscess of the abdominal wall. Before this abscess softened, and while it was still brawny and indurated, meningeal symptoms developed. It was so evident that the meningitis was following the abscess that it was thought unnecessary to do a puncture, it being almost certain that it was due to the streptococcus. However, a puncture was performed, and fluid was found to contain meningococcus. Flexner serum was used and the child recovered.

Lumbar puncture should always be performed whenever there is the slightest evidence of meningitis. It does no harm, and it may do good, by making an accurate diagnosis, or, it may be that we may locate a cerebrospinal case, which alone can be cured.

THE PSYCHOLOGICAL CLINIC.

By WILLIAM H. HIGGINS, M. D., Richmond, Va.

Clinical psychology is essentially a modern institution. Only has it been within the last fifty years that mental phenomena have been accurately observed, and only within the last decade or two has reliable scientific data been collected on the anomalies of the child's mind. It is true that so long ago as 1837, Seguin, the so-called liberator of the feeble-minded, established the proper conception of the underlying pathology in these conditions, yet the study of the borderline types did not develop until later.

Children of previous generations have suffered because of the lack of co-operation between the branches of psychology and medicine. Both of these sciences have made enormous strides in their development, yet each has apparently been handicapped by not enjoying an affiliation with the other along lines where the same end was being sought. The psychologists have obviously been derelict in not taking into consideration organic defects in the objects of their study, while the medical profession has unquestionably minimized the valuable contributions of their psychological confreres. We are recognizing more than ever before the complexity of mental reactions, and we are determining many previously unknown factors influencing the responses of the nervous system. So generalized are these stimuli, and so varied are their results, that a normal mind is only a relative term. Therefore, the line of demarcation between the normal and the subnormal is at times a hazy one, and it becomes necessary to make use of any means by which a proper interpretation can be made. Psychological clinics were established to meet this need. They remain true to their obligations only when one phase of the examination does not discount the importance of the other.

Psychological clinics have multiplied rapidly. Chiefly confined to the North and West, they have become a part, not only of the leading universities and hospitals, but institutions for the training and treatment of the mentally deficient are not complete without facilities for the study of their inmates.

The functions of a psychological clinic are varied, yet definite. Its main task is to establish normality, and to recognize any deviation from it in the processes of the working mind. It is the clearing house for the children of the community. It is obligated to diagnosticate all physical lesions, and to determine, if possible, any casual relationship existing between bodily and mental defects. It must take into consideration the inheritability of such germ plasma as is capable or incapable of normal development as well as its liability to injury or subsequent unfavorable influences. Broadly speaking, the recommendations of such a clinic depend on the physical handicaps noted in the examination, the interpretation of the child's responses to selected psychological tests, the environmental conditions as reported by the special nurse, or the presence of any mental deficiencies remediable by educational or manual training methods.

During our year's experience, we have admitted for study four distinct types of children.

The largest group is composed almost entirely of those who have had repeated failures in their school work. In order to be of material service to their teachers, it is necessary, with this class to differentiate from the

feeble-minded, the mental retardates where there may be a genuine arrest of development, due to environmental handicaps, physical defects, or to constitutional indispositions. With such, the problem is partly medical, partly sociological and partly pedagogical. Closely related to this group are those with normal mentalities, yet exhibiting a slowness of cerebral responses sufficient to impair their progress. As a rule, no extenuating circumstances can be found to produce this phase of backwardness, and the problem of correction consists fundamentally in providing the proper educational stimuli. The differential diagnosis of these three groups is one of our most difficult problems, and probably includes our highest percentage of errors. Medical knowledge alone is not sufficient, as our chief reliance is upon the application and proper interpretation of certain psychological tests, to which a reference is made in another paragraph.

The second type of child admitted to the clinic is the juvenile offender. Owing to the activities of our juvenile court, these young violators of the law are receiving considerable attention. Recent investigations in other clinics have demonstrated the not infrequent occurrence of mental enfeeblement associated with moral degeneracy. Therefore, it is of vital importance to determine in what instances these two characteristics are co-working, in order to protect society from further annoyances. The application of the methods of clinical psychology to the study of the juvenile offender is making rapid strides in this country, and is rendering a valuable service by meeting the needs of the delinquent before he develops into the matured criminal.

The third type entering the clinic is composed of the homeless orphans, the wards of the State. Before these children are sent to their adopted homes, it is necessary to establish the degree of their mental, as well as their bodily efficiency. The public is now exercising a greater discrimination in the selection of their adopted heirs, and rightfully demands a "clean bill of health."

The fourth type is represented by the queer, misunderstood child. He is shunned by his playmates, and maltreated by his parents. He is not necessarily feeble-minded, yet he displays a curious symptom complex of an overstimulated mentality, superimposed upon an impoverished mental background. His requirements are urgent as his incipient psychosis makes him a serious menace to the community, and a burden to his family.

In an analytical study of our cases, we have endeavored to determine, if possible, the etiological factors in the production of the mental deficiencies. The causes of feeble-mindedness, as shown in other clinics, are sufficiently varied from a medical standpoint to incite the keenest interest.

Aside from heredity, syphilis, thus far, has proven to be a most frequent contributor. An acquired infection in childhood is not common, but the problem of hereditary lues looms up with increasing importance, as its frequency becomes established. Although showing a high percentage in Europe, writers in America have considered it relatively an infrequent cause in the production of mental enfeeblement. Goddard, for instance, at Vineland, has rather lightly regarded it in his class of defectives. In a special report, I hope to show the frequency of positive Wassermanns in our cases, and to compare the grade of mentality of our series with those of other statistics. Thus far our percentage is above 25, and it may be of interest to state that we are finding most of them not in the low grade stupid idiot, as much as in the incorrigibles of fair intelligence.

The experimental work on ductless gland feeding offers a ray of hope towards a better understanding of certain types of defectives, and there are authentic accounts of impaired mentalities being restored by proper glandular medication. Of course ductless gland therapy is still in its infancy, and the distinct indications for the administration of specific glandular substances are very hazy. However, it is reasonable to suppose that further studies along this line may prove decidedly beneficial for clinics of this kind. The effect of thyroid extract on mental activities, of adrenal extracts on our emotions, as shown by Crile, of pituitary extract on sexual development, as demonstrated by Goetsch, and of pineal extract on cerebration in general, as outlined by Dana, is well established, and needs no discussion from an experimental point of view. To what extent such results can be applied clinically remains to be determined.

Injuries before and after birth have unquestionably also shared in the production of feeble-mindedness. Contracted pelvis, the improper use of forceps, prolonged labor, and severe

blows on the head, are often sad epochs in a child's early life. Although little can be done from the standpoint of mental development for those where trauma is the underlying factor, an accurate diagnosis of the condition will afford a better and more sympathetic understanding of the child's peculiarities. Manual training sometimes offers encouraging results with this class, and with exercises selected for their individual needs, considerable progress may be made.

The recognition of minor physical handicaps has become a very important element in the modern school inspections. The conviction that there is an intimate relationship between physical defectiveness and mental inefficiency or irresponsibility is now an accepted postulate. Aside from the indictments of the eyes, tonsils and adenoids, oral infections are being incriminated, and seemingly with just cause. Statistics have shown a definite improvement in the mental reactions of children whose teeth have been properly treated.

The examination of the child in a psychological clinic has three motives in view: First, the evaluation of the bodily and mental health; second, the determination of the factors producing the mental defect; third, the recommendation of measures conducive to overcoming the deficiency. Such an ideal is reached only after a thorough physical examination, a detailed record of the family history, reliable information concerning his birth and early childhood, and a knowledge of all accidents, or illnesses which could have a bearing on his mental development. It is necessary to know his school history, habits, associates and special abilities. Much of this information is obtained by the special nurse, who visits the home and gathers the necessary data from the families. The housing conditions, character of food, sleeping arrangements, and other details are sought for, all of which has a part in the final history. Wassermann reactions are made on all patients, regardless of their complaint or physical findings. In addition to the regular neurological examinations, authropometric measurements are taken, including weight, standing and sitting height, dimensions of the head, strength of grip, and lung capacity.

The employment of certain psychological tests is valuable in analyzing the individual mental defect, and is very essential in the interpretation of the patient's reactions. By this means one can demonstrate the subject's power of attention, judgment, discrimination, constructive imagination, etc. An estimation of these fundamental elements provides a basis for the proper selection of suitable mental or manual exercises. There is a popular conception that the Binet-Simon scale is an infallible guide in differentiating the normal from the subnormal mind. I take this opportunity, however, to protest against such hasty diagnosis and to state that this method, although valuable, is only contributory, and not in the least conclusive.

The success of a psychological clinic depends largely on the efficiency of the social service department. Unless competent workers are available, who posses tactfulness combined with intuitive ability, much of the patient's history is lost. Some of the questions pertain to the personal life, habits and associations, while others deal with more intimate problems, such as the mental aptitude of the different children, or the possible court record of the father or brother. Aside from convincing the family of the necessity for this information, the social workers find it most difficult to impress upon them the importance of attending the clinic. To the average parents, their feeble-minded children are not sick, and even though syphilis is the underlying factor, its presence seemingly has little significance to them. The duties of the nurse, therefore, are varied, and dependent upon the idiosyncrasies of the patients.

In conclusion, it may be stated that the Psychological Clinic has a definite field in the Medical Dispensary. Its chief functions are to establish an etiological basis for the subnormal mentalities, to differentiate the functionally backward child from the varying grades of mental enfeeblement, to aid in the disposition of the juvenile court offenders, and to institute measures tending to correct obvious mental defects.

6 *West Franklin Street.*

THE ROENTGEN RAY DIAGNOSIS OF PYLORIC STENOSIS.*

By A. L. GRAY, M. D., Richmond, Va.

In presenting to you the Roentgen ray aspects of this subject, it is necessary for us to bear in mind the normal physiology of the

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stomach of the infant as observed by the Roentgen rays so that we may note the deviation from this that may occur, not only from pyloric stenosis, but also from causes other than a permanent organic thickening of the pyloric ring. There are some conditions that are apt to produce similar impressions, and may lead to false interpretations.

To one for the first time observing the stomach of a normal infant as shown in the Roentgenogram, the marked difference in the conformation from one's preformed ideas is most apparent. He is struck with the fact that there is lacking the characteristic "J" or inverted "cow's horn" shape, but instead, an oblong shadow lies more or less horizontally across the epigastrium, and gives the impression of an ill-defined pouch. One will be struck with the comparative absence of peristalsis in the stomach wall, while little, if anything, marks the course of the duodenum, though irregular masses of the opaque material may be readily seen in other portions of the small intestine. This probably results from the difficulty in introducing into the stomach a sufficient quantity of the barium or bismuth in proper suspension, as the available menstrua are lacking in viscosity, and permit sedimentation of the opaque salt. At all ages, however, the normal stomach begins to pour its liquid contents into the small intestine within a very few minutes after they reach the pylorus, and distend the antrum.

As digestion proceeds, and the secretion of HCl continues, there is an intermittent contraction and relaxation of the pylorus according as the reaction in the duodenum is or is not acid, until the stomach is entirely rid of its contents. Immediately after the stomach is filled, there is little evidence of peristaltic action, but this becomes more apparent after a partial emptying has taken place, when quite distinct waves are discernible. The complete emptying time, while usually considered to be in infants within two and one-half hours, is greatly modified by the nature and composition of the ingested food.

It can be easily deduced that if the stomach has made its efforts to expel its contents into the small intestine with little or no result by the expiration of the normal emptying time for the particular food in question, there is obstruction more or less complete at the pylorus. But there is the "border-line" or partially developed case that just as effectively starves out the little sufferer, though the process is a slower one. This is the condition that gives rise to the greatest difficulty in clinical diagnosis, and is likewise the most difficult to recognize by Roentgen methods.

In attempting the diagnosis of the condition of pyloric stenosis, the technique I have adopted is as nearly as possible as follows: Administer the opaque material in warm mother's milk, if practicable: if not, in a modified milk corresponding to the age of the child. Avoid over distension. Observe by the fluoroscope, or plates, the appearance of the stomach immediately following the ingestion of the meal; note carefully whether there are excessive peristaltic movements within the first half-hour. Continue the examinations at intervals of one-half to one hour for the first four hours, and again, if necessary, in six hours, note the progress and amount of opaque material in the small intestine. By a careful comparison of these factors with the normal, a fairly accurate conclusion may be reached.

Perhaps the most characteristic sign of pyloric stenosis is an unavailing hyperperistalsis. This, however, does not continue indefinitely, but the stomach appears to tire from its unusual effort, and a condition of rest resembling atonicity ensues. After the rest, the attempts at expulsion are repeated. Over distension will materially impede gastric motility, and will correspondingly prolong the normal emptying time. Not more than two-thirds to three-fourths of the estimated normal stomach capacity should be given, and proper allowance made therefor.

The two conditions that are most liable to be mistaken in the Roentgenogram for pyloric stenosis are pyloro-spasm and atonic gastric dilatation. In each of these there may be a markedly retarded emptying of the stomach, and a single plate made within an hour after the opaque meal may be practically identical with that of complete stenosis.

In pyloro-spasm, the obstruction may be complete while it persists, but there is apt to be an early escape of a small amount from the stomach before the spasm completely shuts off the passage, and if the observation extends

over a considerable time, the spasm will relax, and a comparatively large amount is apt to be extruded at each ejection before the pyloric sphincter again abnormally blocks the passage. The administration of an anti-spasmodic, such as belladonna, or its alkaloid, atropine, will perhaps definitely determine between spasm and a permanent condition.

The entire absence of peristalsis for a prolonged period, with perhaps a slight leakage from the pylorus, would indicate atonic dilatation, and would be determined only by frequent observation at short intervals.

In the condition previously described as a "border-line" case, where the stenosis is incomplete, there will probably be present more or less hyper-peristalsis with an extrusion at short intervals of a relatively greatly diminished amount of the stomach contents.

All things considered, the diagnosis of pyloric stenosis by Roentgen rays is not difficult, and is perhaps the only possible method of determining with accuracy the condition in its partially developed state.

In conclusion, I beg to acknowledge my grateful appreciation of lantern slides lent by Dr. L. T. LeWald, of St. Luke's Hospital, New York, and Dr. Percy Brown, of Boston, to the latter of whom are also largely due the ideas expressed on the diagnosis of pyloric spasm.

312 *East Franklin street.*

INDICATIONS FOR AND METHODS OF ABORTION.*

By W. S. SLICER, M. D., Roanoke, Va.

By the term induction of abortion, is understood the artificial termination of pregnancy before the foetus has attained viability, namely, prior to the twenty-eighth week. The operation dates from the most remote antiquity, and more or less accurate directions for its performance are to be found in the earliest writings upon medicine. It was so extensively practised in Rome that we find it repeatedly referred to by Plautus, Juvenal, and other secular writers as a matter of everyday occurrence. With the spread of Christianity, however, it came to be considered criminal, except when undertaken as a last resort in order to save the life of the mother; and we now draw a sharp distinction between criminal and therapeutic abortion.

Three groups of cases may offer an indication for the operation. Thus we may think it our duty to induce an abortion: (1) as a direct means of saving the life of the mother: (2) to do away with a condition which may threaten her life if gestation continues; and (3) to avoid certain dangers which may supervene if pregnancy is allowed to progress to full term.

Under no circumstances should the operation be undertaken unless a careful and thorough examination has demonstrated that the patient is in a most serious condition. Her statements are entitled to but little weight, and the decision to interfere should be based entirely upon objective symptoms and conditions. Moreover, the operation should never be undertaken without consultation with a second physician, who assumes his share of the responsibility. This precaution, besides securing for the patient additional advice, will protect the physician from a possible blackmailing on the part of unscrupulous persons.

In the first group, the best-recognized indication for the operation is present when the vomiting of pregnancy is uncontrollable. In most cases this symptom amounts to nothing more than a serious annoyance, and can be relieved by appropriate medical and dietetic measures, more particularly by the temporary employment of rectal feeding; but now and again every attempt will prove unavailing, and the condition becomes so serious that the patient is in danger of starvation unless promptly relieved.

Owing to the fact that the vomiting of pregnancy usually ceases spontaneously, or becomes better under treatment, there is a natural hesitancy on the part of the physician to interfere. For this reason the operation is not infrequently postponed until the condition of the patient has become so serious that death is the inevitable consequence whether abortion be induced or not. Accordingly, when all food is vomited, the patient is rapidly becoming emaciated, and the pulse very rapid, there should be no hesitation as to propriety of interference, and radical measures should be resorted to while they still offer a reasonable chance of saving the woman's life. Procras-

*Read before the Southwest Virginia Medical Society, at Roanoke, Va., December, 1916.

tination may lead to the death of the patient. Tuberculosis in some cases is put down as an indication for the induction of abortion.

The induction of abortion is likewise urgently indicated when the uterine contents have become infected, a condition which frequently follows attempts at criminal abortion. Under such circumstances, if the foetus has not already succumbed it will almost certainly die, and the only chance of saving the woman's life lies in promptly emptying the uterus and cleansing its cavity.

In the second group, marked renal insufficiency or acute nephritis may necessitate the operation. But inasmuch as such conditions usually make their appearance only when pregnancy is well advanced, they should be considered under the induction of premature labor.

Diseases of the ovum, such, as hydatiform mole and hydramnios, occasionally afford an indication for the operation. Whenever the former condition is diagnosticated the uterus should be emptied at once, no matter what be the period of pregnancy, as under such circumstances the foetus is either dead or very imperfectly developed, and if the diseased chorion be allowed to remain in the uterus, a deciduoma malignum may develop.

Uterine hemorrhage in the early months of pregnancy is generally a sign of beginning spontaneous abortion, but if the loss of blood continues for some time and is not followed by expulsion of the ovum, the uterus should be emptied by operative means. Later in pregnancy the most frequent cause of hemorrhage is a faulty implantation or placenta praevia, and under such circumstances delivery should be effected as soon as possible. The rare cases of missed abortion, in which the ovum is retained for weeks or months after the death of the embryo, demand that the uterus should be emptied as soon as serious symptoms appear.

The indications in the third group are afforded by markedly contracted pelves or tumor formation. Formerly, the induction of abortion at an early period was considered justifiable when the pelvis was so contracted as to present an absolute indication for Caesarean section: but at present, in view of the excellent results which attend the latter operation, this view has been modified. The same applies when pregnancy is complicated by the presence of uterine myomata or ovarian cysts. In the former class of cases, if the symptoms are urgent, hysterectomy should be promptly performed without regard to the existence of pregnancy; but if the tumor promises to act merely as a mechanical obstacle to labor, pregnancy should be allowed to go on to term, and Caesarean section then performed, followed by removal of the uterus.

Ovarian tumors complicating pregnancy should be removed by laparotomy as soon as the diagnosis is made. In many such cases this can be done without causing interruption of the pregnancy, and spontaneous delivery will occur at term.

The induction of abortion is not indicated in malignant growths, whether they affect the uterus or adjacent organs. In carcinoma of the cervix the treatment to be pursued differs according to circumstances. If the case be operable, immediate hysterectomy is indicated without regard to the presence of pregnancy; but if the disease has progressed too far to offer a prospect of permanent cure after operation, gestation should be allowed to continue in the interests of the child, which should be delivered at term by the procedure most appropriate to the particular case.

After having satisfied ourselves of the necessity of inducing abortion, the next important question is a choice of the method to be employed. This is, of course, governed by the duration of pregnancy, the condition of the patient, etc.

In rare cases the cervix may be so resistent as to render rapid dilation impossible. To attempt to empty the uterus blindly by means of a curette and placenta forcep is unwise as the danger of rupturing the uterus by such a procedure is very probable. Then, too, portions of the placenta may be left intact. It is necessary in this class of cases to adhere strictly to surgical asepsis.

If the uterus is to be emptied at once and the case has not progressed beyond the fourth month, the patient should be placed in the usual position for vaginal surgery, and the cervix exposed by means of the ball-weight vaginal speculum. One should be careful not to traumatize the tissues. The cervix is

grasped and brought plainly into view and slowly dilated preferably with a Goodell dilator or some similar instrument. Now, just here, there is a difference in the methods employed by different men. Some prefer using their fingers to clean the uterus, others a dull curette, and still others prefer an ovum or placenta forcep.

My experience has proved the placenta hook to be the most serviceable and the most efficient instrument. One can follow with ease the entire uterine cavity without the slightest danger of rupturing the organ.

The post-operative treatment following this method is similar to that following any curettage. Another method which might be employed in those cases in which the cervix is resistent, thereby rendering rapid dilation impracticable, is that of packing the uterine and vaginal canal with sterile gauze or inserting a soft rubber catheter into the uterine canal and placing a vaginal pack (some advise giving in conjunction fluid extract of ergot in half dram doses every four hours), removing the vaginal and uterine pack at the expiration of twenty-four hours, at which time in the majority of instances the ovum will come away with the pack. However, some of these cases are reported as having after this stage of treatment some form of curettage, this being necessary to remove parts of membrane which did not come away with the pack.

Such procedures as injection of chemicals into the uterus have been practised but are dangerous and should be discouraged. It does not come under the head of my paper exactly, but in connection, I wish to report, without criticism, two cases for your consideration.

The first case was that of a young married woman, twenty years old, first pregnancy, with a persistent vomiting. The physician in attendance on the case called in a consultant who agreed with him that it was imperative to empty the uterus. The patient was taken to the hospital. The surgeon was in consultation who likewise advised emptying the uterus. I was called in the case as an associate. In this particular case the surgeon chose the method of gradual dilatation. A urethral soft rubber catheter was inserted into the uterus, followed by a tight vaginal pack. Surgical asepsis was, of course, carefully carried out. In twenty-four hours the patient was taken to the operating room, where the vaginal pack was removed with the catheter and a clot and some membrane. The surgeon felt that the membrane had all come away. The patient was returned to the room. Following this the nausea and hemorrhage ceased. She was dismissed from the hospital on the fourth day. At the expiration of another week the surgeon was called to the home of the patient, where he found her flooding. He called me in and we found it was necessary to anesthetize the patient, when we thoroughly dilated the cervix and removed a quantity of membrane which had been retained. A uterine and vaginal pack was inserted, which was removed in twenty-four hours and the usual after-treatment given. Since that time the same woman has had two perfectly normal pregnancies. The oldest child is four years old, the baby six months old. In neither of these pregnancies was there any serious nausea.

The second case was that of a young married woman, twenty-two years old, who was brought to the hospital by a surgeon with a diagnosis of obstruction of the bowel. She was in extremis. The abdomen was opened under local anesthesia, with a few whiffs of chloroform. The findings were negative. The abdominal wound was closed and the patient put to bed. Nausea continued. The next morning the uterine and vaginal packs were inserted, which were removed within twenty-four hours with all of the membrane. The nausea and vomiting ceased. The patient developed a ravenous appetite; bowels moved well, and the patient made an uneventful recovery.

There are lessons to be learned in each of these cases.

Mac Bain Building.

VARICOSE ULCER—ITS TREATMENT.

By GEO. A. CATON, M. D., New Bern, N. C.

The treatment of varicose ulcer of the leg by the ordinary means of ulcer treatment has been without value, as to permanent result, in my experience. All the remedies recommended by recognized authorities have been tried, including the various stimulators of granulation, but without lasting effect. Absolute rest with elevation of the affected member with such antiseptic treatment as might suggest itself

has been employed without avail. Hot sterile normal saline packs applied every thirty minutes, with the limb elevated, was the treatment employed in a recent case and the results were apparently good. Epidermization took place and after a tedious wait I concluded that my patient was well, but within ten days after the patient was permitted to resume his work the old ulcer scar broke down completely. Local measures failed to effect healing. The ulcer was then excised with no better results. This has been my experience with the palliative treatment of varicose ulcer.

The true cause of varicose ulcer is two-fold. Primarily, there is inherent atony of the venous walls; secondarily, mechanical defects which develop as a result of tubercular or syphilitic taint. Binnie says that the excuse for the superficial veins becoming varicose is that, being outside of the deep fascia, they are poorly supported. But we all have long saphenous veins; they are poorly supported and yet only about five per cent. have varicosities. The conclusion must, therefore, be reached that the chief cause is congenital atony of the vein walls, which does not manifest itself until later in life when degenerative changes have taken place, or on account of lowered resistance from one cause or another.

Varicose ulcer is invited by the varicose condition because of the lowered resistance of the parts, incident to the stagnant venous returned flow. Infection easily follows and in many cases spreads rapidly and is most rebellious. Satisfactory treatment must be surgical. Certainly there are associated constitutional states which contra-indicate operation and certain local conditions such as incompetency of the deep veins from phlebitis, etc. Generally, however, such conditions are not encountered. Mayo, when there is doubt as to the competency of the deep veins, applies an elastic support to the affected limb for a week; if this affords comfort it is fairly evident that the deep vessels are capable of doing their duty, and operation is then advised. My experience in treating varicose ulcers by local means has, as I have before stated, been wholly unsatisfactory. Barring contra-indications, I now invariably operate. The end to be accomplished in the surgical treatment of varicose ulcer is to force the superficial venous circulation, in the particular field affected, through the deep venous channels, thus depleting the stagnant condition in the superficial veins. There are several operations which accomplish this purpose satisfactorily, but the one which, perhaps, I have found most simple, was the one devised by Babcock. This operation was described in the *Journal A. M. A.*, July 16, 1910. The instrument used by Babcock and the one which I have employed in my operative work is a long, pliable probe with a small acorn tip at one end, capable of passing through the lumen of the vein to be removed; at the other end is a large acorn tip. The shaft surface of the acorn being so cuffed as to catch the wall of the vein and prevent its inversion and slipping over the end of the instrument.

Operation. Apply a constrictor around the upper thigh if the vein is not readily seen. The vein is exposed by a transverse incision, three-fourths of an inch long, at the upper end of the segment to be removed. Tie the distal end of the vein and introduce the small end of the probe and pass the probe along the inside of the vein to the lower end of the segment to be removed. With strong silk, tie the vein to the shaft of the probe close to its larger acorn end. Make a second incision over the smaller end of the probe and pull it out of the wound by firm traction with a series of jerks. The vein is thus stripped from its bed and the small venous branches are torn from the vein without difficulty, and the vein comes away in a small mass against the concavity of the larger bulb of the instrument. In my experience there has been no hemorrhage of consequence; should this occur it may be readily controlled by gauze pressure.

In uncomplicated cases the Babcock operation is as good as the best, but when varicosities are numerous and when there are extensive adhesions on account of the long continued congestion and infection, the Babcock may be combined with the Friedal operation, which consists of a series of circular incisions around the leg. I consider the Friedal operation objectionable on account of the extensive scarring which must necessarily follow such extensive incisions and it is advised only when, in my opinion, the Babcock or some other similar operation, will probably not effect the desired result.

In these old cases where there has been long

continued inflammation and infection, breaking down and building up of tissue, where is a notable lack of resistance and after the operation one must not expect to see the ulcer heal immediately. Circulation must be re-adjusted, infection controlled, and local resistance raised.

In my last case after the Babcock operation, and where there was a great deal of infection and a very marked lowering of resistance, so much so indeed that the tissues were absolutely "punky," I used what is known as the sand treatment. This consists merely of a box four inches wide and about six inches deep and long enough to accommodate the leg, open at one end on the top. This box may be sterilized (but not necessarily) and sterile cotton or gauze placed in the bottom of same. The limb is placed in this box, and the sand, which has been sterilized in a one per cent. soda solution and baked until perfectly dry, is placed over the limb until the ulcer is covered. An occasional examination was made of the ulcer in a recent case which I treated, and I found that this treatment worked very satisfactorily. Absorption of secretions from the ulcer was perfect so far as I could see, and granulation began to take place promptly. This case of varicose ulcer was of two years' duration and recovery was prompt and complete.

In conclusion, I desire to state with respect to treatment of acute ulcer (not varicose) that the hot normal salt sterile packs, with absolute rest, applied every thirty minutes, has given most satisfactory results and the old method of cleansing (?) with bichloride solution and the application afterwards of antiseptic balsams, powders, etc., with the snug bandage, has been absolutely discarded. The open treatment of acute ulcer, I am convinced, has infinitely more merit.

Report of a case of acute ulcer, July 10, 1910:

Mrs. L. sustained an injury of the dorsal surface of the foot in a cow lot. After several days she consulted me and I found an ulcer the size of a silver dollar, very foul and spreading rapidly. The temperature at the time I saw this patient was 102° F. Absolute rest was enjoined and the usual so-called antiseptic treatment instituted. This was continued for one week, at the end of which time the infection was half way to the knee and the ulcer twice its original size. The patient was then placed in bed and the nurse instructed to apply warm sterile salt packs every thirty minutes. Within twenty-four hours there were signs of improvement. There was no pus formation during the two weeks' treatment which followed and the patient was dismissed at the end of that time, cured.

I have since used this open method of ulcer treatment whenever possible, and my results have been absolutely satisfactory.

OBSTETRIC ANESTHESIA.*

By EDWIN M. MANN, M. D., Kenbridge, Va.

Of anesthesia in obstetrics for the usual surgical indications there is much that could be said. The employment of anesthetics in obstetrical operations should be governed by a well-established usage of surgical practice.

By obstetrical anesthesia is understood something entirely distinct and apart from surgical anesthesia. It is intended to diminish, not to abolish pain. Its object is merely to mitigate the severe suffering of ordinary labor, not to cause complete insensibility.

In most labor cases there is but a small quantity of chloroform used to develop what is termed "light anesthesia," and it is but seldom necessary to carry it to the stage of complete anesthesia.

It is an accepted fact that it is a very dangerous performance to operate on any case, where chloroform is used, when the patient is only partially under its influence. My experience with this special question is that incomplete anesthesia with chloroform is the most frequent cause of fatal results.

In fatal cases, under light anesthesia, death is due to cardiac syncope, and arises from reflex stimulation of the vagus nerve, thus causing inhibition of the cardiac pulsation. I repeat that an operation should not be undertaken under partial anesthesia, as the reflexes at this time are often exaggerated instead of controlled, and death results from reflex cardiac inhibition.

A careful study of the effects of anesthetics, the safety and the methods of administration, causes one to reach the conclusion that no method of using chloroform is free from danger. Another matter of vital importance relates to the person giving the anesthetic, the

*Read before the Lunenburg County (Va.) Medical Society, December 7, 1916.

choice of the same and to the mode of administration. I have concluded, in my limited experience, that the most important factor in the administration of anesthetics is the experience already acquired by the administrator.

Accuracy in the choice of anesthetics, the amount administered, and experience in the man to administer it, is the tendency of the present day, for it insures to the patient freedom from pain, and a minimum of discomfort and risk in surgical operations. Of course, this applies to incomplete as well as complete anesthesia.

To what extent anesthetic agents may be used to advantage in a simple labor is a question that calls for the exercise of tact and judgment. On the one hand, it cannot be doubted that obstetric analgesia accomplishes a distinct gain, in so far as it spares the patient the exhausting effects of severe pain and prolonged nervous tension; nor has the physician any more pleasing duty than to save needless sufferings of the childbed. On the other hand, except in moderate doses, with the utmost care, and during the most active period of labor, anesthetics are liable to impede the progress of the birth.

The careless and long-continued use of these agents, even in small quantities, is fraught with serious danger to the patient. Their abuse is doubtless at times an unrecognized factor in grave and even fatal accidents of labor. With reference to the influence of anesthetics upon the strength and the frequency of the uterine contractions, it is certainly a fact that chloroform, even in small doses, retards labor. The muscular pressure sinks from 20 to 40 per cent. under the administration, and the strength of the uterine contractions is not fully restored for several minutes after the inhalations are stopped. I have found that the use of anesthetics during labor predisposes, to some degree, to the relaxation of the uterus in the third stage. This is certainly a very unsatisfactory condition.

These facts, while they do not forbid the employment of obstetric anesthesia, call for the exercise of the utmost caution in its use. When required for no other purpose than to lessen the sufferings of the patients, anesthetics should be reserved until the latter part of the second stage, and even here they may be withheld as long as the pains are well borne. When required to subdue great nervousness and excitement, or to relieve pains of extreme and unusual severity, its use is permissible at an earlier period in the labor. In exceptional cases these agents may act to accelerate the labor by counteracting the inhibitory effects of pain upon the uterine contractions.

In the third stage of labor the use of anesthetics is chiefly surgical.

When anesthesia is required to the surgical degree, it must not be assumed that the obstetric patient enjoys any special immunity from the usual dangers of anesthetics. The relative safety of obstetric anesthesia lies not in any peculiarity of the subject, but in the mode of administration, the limited dosage, the slow and gradual inhalation, and the intermittent use of the drug, during the pains only. Under complete anesthesia the woman in labor is exposed to the same danger as other patients.

When an anesthetic is absolutely necessary in a case, neither disease of the heart, lungs, kidneys, nor the exhaustion of the third stage forbids the use. These conditions, of course, necessitate our increased caution in the administration.

In cardiac disease, an anesthetic lessens the danger by subduing the reflexes.

In the choice of anesthetics for mere obstetric pains, chloroform is generally preferred. It has the advantage of being more pleasant than ether and is less bulky to carry. Ether, however, seems to be growing in favor for such cases and is no less manageable than chloroform for partial anesthesia.

The satisfactory use of ether in labor depends upon its proper administration. It must be given very gradually, in quantities of a few drops with each inspiration. The difference in the safety of the two agents is insignificant when used in the obstetric method.

When complete insensibility is necessary for surgical interference, chloroform should give the place to ether, for the general mortality of chloroform when pushed to the surgical degree is four or five times greater than that of ether. Of the two, chloroform is the more potent, and its effects persist longer after inhalation stops.

Ether is generally considered to be more

dangerous in nephritis than chloroform, and, owing to the tendency to produce high arterial tension, is dangerous where there is marked atheroma.

An agent of great value as a partial substitute for the anesthetic vapor is chloral. It is particularly useful for easing the pains of the first stage when they are not borne well. It may be given in doses of 15 grains every 20 minutes until 60 grains are given. Under this, the patient bears the pains with little complaint and sleeps quietly in the intervals. Chloral in the above quantity has no inhibitory effect upon the uterine contractions. Owing to its depressing effect, great care should be used in giving it where the heart is affected, either organic or functional.

Considerable danger in the use of anesthetics may be lessened by the preliminary use of narcotics and hypnotics, with the addition of some heart stimulant. Care must be taken in administering the usual dose of morphine alone when chloroform is the anesthetic employed. It is best to use some other drug, as both morphine and chloroform have a depressing effect on the respiratory centers. Atropine seems to be the best drug to use as a preliminary to chloroform, as it renders the inhibito-respiratory reflexes less liable to occur. If used alone, atropin, 1-100 to 1-150 of a grain from 30 minutes to an hour before giving chloroform, is a very proper dose. One-eighth of a grain of morphine with from 1-100 to 1-150 of atropin is a good combination in this instance.

I present the following points on this subject for discussion when chloroform is used in labor:

1. More danger of hemorrhage immediately after delivery or even two or three days after.
2. Undoubtedly prolongs delivery.
3. Often causes trouble in delivery of the placenta.
4. Tendency to retro-version of the uterus.
5. There is some danger to the mental condition of the child.

Lest we forget, the best antidote for worry is a change of mental occupation, a getting away from the scenes that provoke worry, exercise in the open air, a good book, a pleasant recreation, or a temporary change of occupation.

Clinical Reports.

CESAREAN AND PORRO-CESAREAN OPERATIONS, WITH REPORT OF CASES, AND REMARKS.*

By JOHN W. DILLARD, M. D., Lynchburg, Va.

I desire to report a few cases of Cesarean and Porro-Cesarean sections:

No. 1. Mrs. ———, age 30, married five years and unfruitful; had retroversion and prolapsus of the womb. She was operated on for this trouble by abdominal fixation or suspension. I do not know which operation was done.

She was taken in labor at full term, and on examination I found the os well up in the pelvic cavity and behind the symphysis pubis. The pains were vigorous and lasted about twelve hours. The os failed to dilate and the pains subsided. About ten days later the pains returned, even more vigorously than the first time, and as I could not reach the os to dilate, I decided on a Cesarean section.

The operation was done by the abdominal route, and when the uterine cavity was opened a very large and living child was delivered.

The uterus had been so fixed that the cervix and lower segment were firmly adherent to the peritoneum and abdominal muscles, and I converted the Cesarean section into a Porro-Cesarean section, as the safest operation for the mother, the necessity for this operation having been brought about by the previous operation of ventral fixation or suspension.

I desire here to say that the operation of fixation or suspension should never be done unless the ovaries are removed, the tubes tied off, or the woman is known to be absolutely sterile from age or other causes.

The mother and child are now both living and healthy.

CESAREAN SECTION FOR PLACENTA PREVIA CENTRALIS.

No. 2. The following case was brought to me by Dr. ———, in the seventh month of her pregnancy. She was flooding freely, and the os, which could not be easily reached with the index finger, was high in the pelvic cavity and firmly contracted. The Doctor and I decided that the safest thing for the mother was the Cesarean section, and, as there was no infec-

*Read before the Tri-State Medical Association of the Carolinas and Virginia, at Durham, N. C., February 21-22, 1917.

tion, the operation was done through the abdominal route. The placenta was found centrally located over the os, and the child dead.

The woman lost very little blood and made a good recovery.

No. 3. Mrs. ———, age 35, a primipara, was taken in labor at the end of a natural utero gestation. She was a cripple and to all appearances was very large in the abdomen. Examination revealed a deformed pelvis, with anterio-posterior diameter two and a half inches. I told her and her husband that it would be impossible for her to be delivered naturally or instrumentally. They held a consultation in my absence and decided that she would wait, meaning, of course, that I was mistaken.

The labor pains continued for about twenty-four hours in their normal strength. The uterus became gradually inert, and all pains disappeared. She went from that time, two and a half weeks, without uterine pains or other inconvenience and attended to her household duties, when the second attack of labor, as it might be called, asserted itself more powerfully than did the first. I was sent for again, and this time very urgently. On making a vaginal examination, I told her that I could only repeat what I had said at first. They gladly consented, realizing that the case was then critical.

The Cesarean operation was performed and a ten-pound child removed. I am sure that in the two weeks and a half that elapsed between the two so-called labors, the child had continued to grow. Both mother and child are living.

No. 4. Mrs. B., age 35, a multipara, with negative history, was suddenly seized with convulsions at the time of her expected confinement. She lived in the country some miles from her physician, who did not see her until two hours after the attack of eclampsia. When he arrived the convulsions were still very severe, lasting long and recurring at short intervals. The usual treatment in such cases was given, with no abatement of the symptoms. Failing to give relief, the Doctor brought her to the hospital, sixty miles distant, on a cot in the baggage car, the convulsions having continued at short intervals for twelve hours.

On examination the os was found high in the pelvis and contracted, and as dilatation would have taken long, and the case was urgent, an immediate Cesarean section was resorted to in the belief that it would afford both the mother and child the best chance for life.

The child was found dead. The convulsions were arrested by the delivery, and the woman made a good recovery, leaving the hospital in two weeks.

Remarks—I will not tire you further with reported cases, but wish to say, my experience has taught me to believe that the Cesarean operation, while admittedly safe for the child, is for the mother safer than any other form of delivery where such abnormal conditions exist, as I have outlined in my case reports.

In this present day of antiseptic surgery, it is, in my judgment, even safer than a high forceps delivery in a primipara where the woman is small and the child large; safer in long continued convulsions than the usual slower process of delivery; safer than craniotomy, evisceration, or any other mutilating operation on the child.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 611).

The Tonsilloscope and the Exploration of the Interior of the Tonsils in Situ.

By THOMAS R. FRENCH, M. D., Brooklyn.

The speaker has devised a method by which the external tonsilloscope, originally intended and used for the examinations of exploratory sections removed from the tonsil at the beginning of operations, and now used for study of the tonsil, as a whole or in part, after operations, may be used for direct tonsilloscopy or for the examination of the tonsil in situ. The introduction of the instrument into the throat is accomplished by using the shortest of the Jackson bronchoscopes with a beveled end and a lamp on a light carrier of the next largest tube, packed securely with gauze so that the lamp is held just within the distal opening and the end of the tube slipped behind the tonsil. In this way the tonsil is lighted up as brilliantly as in the powerful external apparatus. With this instrument the writer has studied the various classes of tonsillar disease, includ-

ing three hundred and thirty-three cases that were operated upon, and a large but indefinite number of youths and adults. He concludes that while this may not permit definite and final deductions, nevertheless the results seem to indicate that the erstwhile enlarged tonsils of health in childhood may be regarded as permanently diseased if they continue enlarged after the seventh or eighth year, and that the enlarged tonsils of health which undergo a retrograde metamorphosis in late childhood may remain the tonsils of health throughout life. The assumption that the tonsil has no special function because it has not yet been discovered, is an unconscious confession of impotence to which few could agree, but one conclusion reached in this study is that the function of the tonsil is a negligible feature, for it must be conceded that a tonsil which is extensively diseased would probably be the potential or actual source of too much mischief to be offset by the value of any function which a part of it might possess. When, however, a tonsil is found to be that of health, it should be left at least in part to perform whatever function it may have, and also incidentally to spare the fauces the now common postoperative deformities and the consequent impairment of the speaking and singing voices.

DISCUSSION.

Dr. D. Bryson Delavan, New York City: This work is very real in its simplicity and its practicability, and very real in the ease in which it can be applied; there is nothing in it which would not come within the technic skill of any ordinary operator. It is all that you think it to be from the short presentation of it, and a great deal more besides.

Dr. E. Fletcher Ingals, Chicago: I would just like to ask Dr. French how large a tonsil must be before he calls it "enlarged."

Dr. Henry L. Swain, New Haven: When I wrote a paper some time ago in defense of the much slaughtered tonsil, my whole thought was that we ought to be able to tell in young children, under age, whether a tonsil was diseased or not. I want to congratulate Dr. French, for I think it is a very wonderful thing.

Dr. Chevalier Jackson, Pittsburgh: Long ago I gave up the tonsil as a "bad job"—one not for me to do. It requires more skill than I could bring to bear upon the subject. I have, however, a distinct recollection of talking various cases over with members of this society, and I find that there is a very fluctuating idea as to what constitutes a diseased tonsil, apart from mere enlargement. It seems to me that we are arriving at a stage of accurate diagnosis when we study the tonsil in this way.

Dr. John F. Barnhill, Indianapolis: On two occasions last year I remember tonsil patients were brought to my observation, and in neither case could I find any trouble. I was frank to say so, and stated I did not think the tonsils should be removed. In each instance the family physician said: "There is some condition here which I am confident has arisen in the tonsil," and upon that statement and his recommendation, I was willing to do the work. In each case I found a cold abscess outside of the capsule.

I am wondering if Dr. French's method would have been able to discern this. In each instance the abscess had been present for at least a year.

Dr. Hanau W. Loeb, St. Louis: There are two points I would like to know: If the instruments can be procured, and where; and secondly, whether or not the method will demonstrate the presence of the minute multiple foci of pus at various portions of the tonsil, which is an important matter.

Dr. Greenfield Sluder, St. Louis: These are the observations for which Dr. French's friends have been waiting so impatiently. I have known of what he was trying to do and something of how far he was succeeding.

Dr. Thomas R. French, Brooklyn (closing the discussion): In answer to Dr. Ingal's question as to the definition of the word "enlarged," that was covered in the part of the paper not read. I tried to make it clear that I referred and do refer in such tonsils to glands which project beyond the edges of the anterior pillars, or sufficiently large to curve the anterior pillar forwards.

In answer to Dr. Loeb, I don't know who makes the instruments; these were made for me by Hardy, at Twenty-second street, New York, and I presume he would make them if wanted.

Without Dr. Sluder's assistance and his brilliant technic in the first stage of the experi-

ments, I do not think this thing could have been accomplished. Without the first stage there would not have been any second or final stage, and I am under great obligations to Dr. Sluder for that work.

As to the ease of finding, perhaps a moment might be well spent in listening to the description of a patient who came under my care about six weeks ago, and was under my care for two weeks. She came to me for labyrinthine deafness on one side. For eighteen months previous to the time I saw her, her hearing had been absolutely blank and responded to nothing. The patient was a school teacher, and a very intelligent lady. She had read Dr. Shambaugh's article on infection, in which he suggests rather than justifies the infection. I examined her and found she had a tonsil which would have made a hypertrophied tonsil. Yet with this method I saw four different collections in that tonsil, and on the basis of that, and with continual reference to the article as to the thing I was doing, took out one: at the end of the second week I got out the fourth one, and she came in the following day with her face like the sky in the morning. Her hearing had entirely returned and absolutely responded to every test as completely normal. It was very easy to find those; with the aid of a lamp I got out the fourth one. Yet her tonsil is still hypertrophic, and along with these areas there is a mild general hyperemia which indicates the presence of at least a possible irritating substance. It really was one of the most startling cases, and indicates what must of necessity come to us at times. *(To be continued).*

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

A Manual of Hygiene and Sanitation. By SENECA EGBERT, A. M. M. D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia. Sixth edition, enlarged and thoroughly revised. Illustrated with 141 engravings and 5 plates. Lea & Febiger, Philadelphia and New York. 1916. 12mo. 525 pages. Cloth. Price, $2.25 net.

The author has revised this manual so as to present the latest views, after sufficient time has elapsed to attest their value, on all subjects that pertain to preventive medicine. It is not an exhaustive work, but what is known is liberally and attractively set forth, and furnishes a good working knowledge of the essentials. A new chapter on Industrial Hygiene and Occupational Diseases has been added. In addition, the changing views concerning air pollution and ventilation, out-door schools and play-grounds, improved methods of water purification and sewage disposal, military hygiene, and the recent achievements in life-saving and health conservation have been considered in their leading aspects. At this time when the exigencies of war will bring hygiene even more prominently to the forefront, this little volume will serve as a convenient guide to general health measures and sanitation, civil and military.

Editorial.

Surgical Treatment of Intestinal Stasis.

Intestinal stasis, an old disease masquerading under a new name, is receiving much prominence in both medical and surgical literature since Sir Arbuthnot Lane first attacked the problem by very radical surgery, a few years ago. It seems to be a combination of ordinary constipation and chronic intestinal toxemia, with a slight admixture of "liver complaint." Smithies has called attention to the fact that the typical symptoms described by Lane, such as flabby muddy skin, headache, lack of appetite, etc., are often absent in most pronounced cases of constipation and that marked displacement of the large bowel, as demonstrated by the X-ray, does not always cause constipation. Pathologists generally have not sustained the extreme views enunciated by Lane, and it seems improbable that such a revolution in the function of the colon would take place without any material histologic change. That the symptoms described by Lane do often exist, however, is the common experience of physicians and surgeons, but that they are caused by such a marked change in the structure of the colon as to demand its excision, remains to be proved. More recently Lane claims that in intestinal stasis the terminal ileum is largely affected and that this part of the intestine should be included in the excision.

The incompetency of the ileo-cecal valve has also been too much emphasized. It is evident that if an X-ray picture of a barium enema is taken at such a time as the ileo-cecal valve is relaxed for the passage of the fecal current from the ileum, some of the barium will in all probability find its way into the ileum. Under ordinary conditions the ileo-cecal valve affords the ileum fairly competent protection from the flora of the large bowel and if the ileum is directly united to the colon without the formation of the valve suggested by Kellogg, changes of the ileum, such as thickening and dilatation, occur. The colon is the normal recipient of the putrefactive bacteria from the intestinal tract and is the portion of the intestinal tract from which water is chiefly absorbed. Its extensive removal without sufficient cause is not justifiable. It is a well known fact that if there is partial obstruction at the outer end of the stomach, dilatation of the stomach is likely to occur and physiological digestion will be interferred with. The relief of the obstruction or drainage of the stomach by gastro-enterostomy is considered the proper line along which to treat such cases. The same indications should exist in regard to stasis in the large bowel and excision of all of the colon should almost never be necessary. The correction of angulations and ptosis by suturing, such as is used in the Coffey operation. and the division of obstructing bands, will possibly correct the pathology in most cases. In some instances where the cecum becomes a cess pool and is greatly dilated, anastomosis with the sigmoid seems indicated. It has been objected to this latter operation that it is not likely to be permanent and that much of the fecal current still goes through the ascending colon. These objections, however, are not valid when it is considered that the object is to drain a dilated and prolapsed cecum and that if it is kept fairly empty, the object of the operation is secured. Occasionally. when the cecum is greatly dilated, it may be well to resect the cecum and ascending colon, but even then the ileo-cecal valve should be preserved if possible. Brilliant results will sometimes be obtained from the surgical operation that may be indicated in individual cases, while in others apparently the proper procedure will be followed only by disappointment.

Before surgical procedures should be adopted in cases of intestinal stasis. the patient should be treated for months by a general practitioner. Many cases can be benefited or cured by regulation of diet, the ingestion of sufficient water and by the administration of a good mineral oil. If no benefit results after months of such treatment faithfully carried out, surgery has much to offer. It is undoubtedly true that the more we study cases of obstinate constipation and so-called abdominal neurasthenia. the more frequently we find that many of the symptoms have a basis in some pathology in the abdominal cavity, so that the number of idiopathic abdominal neurasthenics is being greatly reduced.

J. S. H.

Virginia Public Health Association.

Lt. Col. C. C. McCulloch, Professor of Military Hygiene in the U. S. Army Medical School, Washington, D. C., accepted an invitation to speak at the Virginia Public Health Association, which meets in Lynchburg, on April 16, for a three days' session. Dr. E. G. Williams, State Health Commissioner, is this year's president. Among the other speakers are Drs. Peter Winston, Farmville; W. F. Merchant, Manassas; G. A. L. Kolmer, Salem; Otis Marshall, Culpeper; Edwin M. Mann, Kenbridge; J. D. Hagood, Scottsburg; W. M. Revercomb, Clifton Forge; J. W. Wallace, Covington; L. C. Brock, Smithfield; W. F. Driver, New Market; J. D. Miller, Bridgewater; Geo. A. Stover, South Boston; Harry T. Marshall, University; E. C. Levy, Richmond; P. S. Schenck, Norfolk, and W. E. Bray, University. Many and varied will be the health subjects discussed and a large attendance is expected.

Owing to the fact that the Health Association was to begin its meeting on the evening of the 16th, the South Piedmont Medical Society changed its date from April 17th to the 16th, so that they could complete their program by having a morning and afternoon session prior to the opening session of the Health Association.

Faculty of Medical College of Virginia Elected for 1917-18.

At a meeting of the Board of Visitors of the College, March 28. the faculty for the ensuing year was elected, with but few changes from this year. Dr. Hugh M. Taylor, who resigned from the faculty as professor of clinical surgery, was unanimously elected emeritus pro-

fessor. Dr. W. Lowndes Peple was elected to fill Dr. Taylor's place. Dr. S. B. Moon, who has been acting professor of pathology, was elected to hold the chair permanently. Dr. E. C. L. Miller, who resigned from the faculty just before the opening of the session last fall, to be with his family in California, was re-elected professor of bacteriology and physiological chemistry.

The annual meeting of the Board of Visitors is scheduled for June 4.

Call Made to Medical Profession.

The call to enlist in the medical reserve corps of the U. S. Army, Navy, or Public Health Service, has been made not only to members of the medical profession, but also to graduates of the medical schools of the 1917 class throughout the States. Many students have signified their intention of joining the colors, but many doctors are still needed. In a call issued by Dr. Joseph C. Bloodgood, of Baltimore, chairman of the committee on medical preparedness of the Southern Medical Association, the statement is made that from 100 to 500 of the medical profession are yet needed in each of the above named three branches at this time, and for every 1,000,000 men called out, there will be needed an additional 10,000 to 12,000 medical officers in the reserve corps. If there are no local committees or societies through which applications for service may be made, write directly to the surgeon-general of the department in which enlistment is desired.

New Health Officer for Richmond.

Dr. E. C. Levy, after serving most efficiently as health officer of this city for eleven years, has resigned and will shortly leave for New York, where he will be connected with the North Public Health Bureau, in charge of epidemiology and health survey work, at a salary of $5,000 a year.

Dr. Roy K. Flannagan, of this city, Assistant State Health Commissioner, has been appointed to succeed Dr. Levy. Dr. Flannagan was health officer of Charlottesville from 1906 to 1910, at which time, unsolicited, he received an appointment on the State Board of Health, because of the splendid work he was doing in that city. He will enter upon his duties May the first.

New Internes at Virginia Hospital.

Drs. Churchill Hodges and H. C. Wolfe have been appointed internes at Virginia Hospital, this city, to succeed Drs. A. D. Parson and G. V. Greene.

The Richmond Academy of Medicine and Surgery,

At its regular meeting on March 27, discussed the need of doctors for the medical reserve corps of the army, navy and coast defense and much interest was aroused among the members. The speakers included Drs. Micajah Boland, of the U. S. Navy, Stuart McGuire, R. C. Bryan, and A. L. Gray. It was stated that between 400 and 500 doctors from every department of medicine were wanted from Virginia. Physicians joining the Medical Officers' Reserve Corps would be given the rank of first lieutenant, with pay equal to that of the same rank in the army, and would be subject to the call of the government to be sent to any point for duty.

Dr. Robert J. Payne,

Fredericksburg, Va., has been appointed by Governor Stuart, a member of the Board of Visitors of the Medical College of Virginia, to succeed Dr. J. N. Barney, resigned. The appointment is a life one.

Dr. Stuart McGuire,

One of the most prominent surgeons of this country, has been appointed to the general medical board of the United States army and, upon request of Secretary of War Baker, has accepted the appointment. Dr. McGuire has not at this time been notified of the nature of duties that will be required of him and has not yet been called from Richmond.

Dr. George W. Brown,

Superintendent of the Eastern State Hospital, Williamsburg, was called to Culpeper, Va., the latter part of March, by the death of his father.

Married—

Dr. Forrest McLean Bennett, of Clinton, N. C., and Miss Caroline Pettus, of Richmond, March 20. After an extended Northern wedding trip, they are to make their home in Lawrenceville, Va.

Dr. Walter F. Cole and Miss Annie Louise Wharton, both of Greensboro, N. C., March 20.

Dr. William Branch Porter, Richmond, and Miss Martha Byrd Spruill, Rocky Mount, N. C., April 12th.

Dr. William Royall Warriner, Crewe, Va., and Miss Iroin Kerr, Charlotte, N. C., in March, 1917.

Dinwiddie County Doctors Endorse Preparedness.

Members of the Petersburg Medical Faculty, Dinwiddie County Medical Society, and dentists of Petersburg, Va., met jointly April 5, with Dr. William F. Drewry, of Petersburg, presiding, and endorsed the action of President Wilson in the present crisis and pledged themselves collectively and individually to render all service in their power when called upon. Passed Asst. Surg. Boland, U. S. Navy, and Col. Junius F. Lynch, Surgeon General of Virginia Volunteers, were among the speakers. Dr. W. H. Crockford acted as secretary.

Hospital for Lawrenceville.

A movement is on foot to install a hospital in Lawrenceville, Va., under the direction of Dr. Frank N. Mallory, of that place, and Dr. Forrest McL. Bennett, recently of St. Elizabeth's Hospital, Richmond. The plan is to use some building in the place and to have the most approved appliances for hospital and surgical work.

Dr. Joseph N. Barney,

Fredericksburg, Va., formerly secretary of the State Board of Medical Examiners, has been appointed first lieutenant in the Medical Reserve Corps, and ordered to active duty in the service of the United States. He was directed during the latter part of March to report to the commanding officer of the aviation station at Essington, Pa., for duty.

An Epidemic of Trachoma

Has caused some concern in France, according to newspaper reports. It is said to have been brought into the country by the colored African soldiers and laborers. Late in December, 400 cases of trachoma were reported among the white soldiers, but the disease has been practically stamped out in the army by the quick isolation of its victims and other drastic measures. The disease has not been gotten entirely under control in the cities among the civilian population, but health authorities are taking all possible precautions. African soldiers will in the future be subjected to a thorough medical examination before being sent to the front or to the munition plants.

Norfolk County (Va.) Medical Society.

Officers of this Society for the current year are: President, Dr. Rufus Kight; vice-president, Dr. R. L. Williams; secretary-treasurer, Dr. W. W. Silvester, all of Norfolk.

Dr. J. F. Ragland,

Centralia, Va., has been announced as a candidate from Chesterfield County, to succeed Capt. W. W. Baker, as a member of the House of Delegates of the next General Assembly of Virginia.

Medical College of Virginia to Cooperate in Social Service Economy Work.

As an aid to the work of the Richmond School of Social Economy, along the lines of public health and medical social service, the Medical College of Virginia has agreed to incorporate into the curriculum of its public health department such courses as may be helpful along this line. The dean, Dr. Stuart McGuire, has appointed a committee of the faculty, consisting of Prof. Aubrey Straus, Dr. W. F. Rudd and Dr. James H. Smith, to work out the details of the co-operative work.

Surgeon Cary D. Langhorne, U. S. N.,

Was a recent visitor in Lynchburg, Va.

Dr. R. L. Payne,

Norfolk, Va., was elected chief surgeon of the Norfolk-Southern Railroad, at the recent meeting of the directors of the road in New York.

Dr. William F. Drewry,

Petersburg, Va., has been appointed one of ten citizens as a member of the Petersburg Committee on Preparedness, to work in conjunction with the Central Committee on National Defense, and to take charge of the Department of Medicine, Surgery and Nursing.

Germans Offer Hospital to United States.

The Newark, N. J., German Hospital Association has tendered to the government, without reservation, the use of its hospital with its staff of nurses and doctors. This hospital has 80 beds.

Dr. Henry Page Mauck,

Of this city, visited Rocky Mount, N. C., in

March, having gone there to act as best man at the Jones-Daughtridge wedding.

The National Academy of Sciences of the United States of America,

Composed of 146 men noted for original research work in all phases of science, is meeting in Washington, D. C., April 16 and 17. Dr. William H. Welch, of the Johns Hopkins Medical School, Baltimore, is president.

Dr. Alvah S. Hudson,

West Point, Va., has been appointed instructor of the Red Cross chapter organized in that place.

Dr. W. Herbert Lewis,

Of Lawrenceville, Va., with several friends, visited this city early in April.

Dr. William R. Aylett,

Newport News, Va., who was operated upon by Dr. Stuart McGuire, at St. Luke's Hospital, this city, the last of March, is much improved.

A Hospital for Negroes

Is soon to be built in Durham, N. C., as a memorial to the spirit of service of the ante-bellum negro. Messrs. James and Benjamin Duke, of New York, tobacco manufacturers, have announced a gift of $40,000 for this purpose and the remainder of the $50,000 required has been pledged. It is understood that the Dukes will endow the institution.

Dr. Charles U. Gravatt,

A retired naval surgeon and State Senator from Caroline County, Virginia, underwent an operation at Johnston-Willis Sanatorium, this city, the first of the month. He is reported as progressing nicely.

Dr. and Mrs. James T. Leftwich,

Of Harvey, W. Va., spent the Easter holidays with relatives in this city.

Dr. William H. Taylor, Veteran Coroner of Richmond, Sick.

Dr. J. M. Whitfield has been acting as city coroner during the illness of Dr. William H. Taylor, who was compelled to take to his bed for the first time in years, as the result of grip.

Dr. J. Wesley Bovee,

Washington, D. C., who recently underwent a very serious operation at the German Hospital, Philadelphia, is recuperating.

Dr. W. W. Seward,

Surry, Va., has been appointed one of the supervising directors from his section, to cooperate with the Richmond-Norfolk National Boulevard Association, in the maintenance of good roads.

Dr. R. L. Raiford,

Of Sedley, Va., was a visitor in Petersburg, Va., in March.

Dr. James C. King,

Formerly superintendent of Southwestern State Hospital, at Marion, but recently of St. Alban's Sanatorium, Radford, Va., was in Richmond last month on professional business.

The Naval Base Hospital,

At Brooklyn, N. Y., of the American Red Cross, was ordered on March 22, to be held in readiness for active service. Complete equipment for the hospital consists of 250 beds, with medical and surgical supplies. The unit was equipped by a private gift of $25,000.

Lt. W. Nelson Mercer,

Of this city, of the medical detachment, was one of two members of the Richmond Blues left in the hospital at Brownsville when these soldiers returned from the Mexican border. He has been suffering with a broken leg, but is expected shortly to be allowed to return home.

Dr. and Mrs. Robert C. Bryan,

Of this city, left the latter part of March, to spend a few days in Charleston, S. C.

Dr. and Mrs. B. H. Tatum,

Of Clifton Forge, Va., have been in Baltimore for some time, where Dr. Tatum is taking a post-graduate course.

Members of Caroline Automobile and Good Roads Association.

Upon the organization of the above association at Bowling Green, Va., in March, Drs. L. J. Head, of Jerrell, and E. C. Cobb, of Penola, were elected two of the vice-presidents.

Dr. P. Pendleton May,

A prominent physician and former treasurer of Louisa County, has been very ill at his home at Trevilians, Va.

The Retreat for the Sick,

Of Richmond, is assured of a new building by the subscriptions received in the recent fund-raising campaign. In the ten days of the campaign, $100,160 was raised and this was increased to $112,000 during the following week. No further active campaign will be carried on to raise the desired $150,000, but a quiet canvass for funds will be carried on until the full amount is reached. The date for beginning work on the new building has not yet been set.

Dr. H. W. Judd,

Of Mineral, Va., recently visited this city on business.

Dr. George K. Vanderslice,

Phoebus, Va., delivered an address on hydrotherapy, illustrated with pictures, at a meeting of doctors at Old Point, Va., March 20.

Dr. E. L. McGill,

Petersburg, Va., was appointed a member of a committee of three to inspect the jail of that city and make a report to the court as to its condition.

Physicians Organize to Serve in War.

Upon a call of Dr. J. W. Long, of Greensboro, N. C., chairman of the North Carolina committee of the medical reserve corps of the Council of National Defense, physicians from many sections of North Carolina met in Greensboro, March 23. They decided that doctors in every county of the state should be organized and prepared for war duty in case of need. Physicians were assigned to the different counties for the purpose of bringing the subject of medical preparedness before the medical profession.

Dr. A. E. Turman,

Of this city, last month purchased the home of Mr. E. V. Williams, at the northeast corner of Adams and Grace streets.

The Health and Sanitation Committee,

Of the Richmond Chamber of Commerce, as announced for 1917, is composed of Drs. A. G. Brown, Jr., chairman, and Drs. M. L. Anderson, Robert S. Bosher, Stuart McGuire, Clifton Miller and Charles R. Robins.

The Chesapeake & Ohio Railway Hospital,

Clifton Forge, Va., was formally opened April 2, President of the road, George W. Stevens, making the principal address. Dr. W. T. Oppenhimer, Richmond, chief surgeon of the road, was also present. This new and up-to-date building, at a cost of about $70,000, replaces a structure which had seen service for twenty years. Dr. Benjamin B. Wheeler, formerly in charge of the Miner's Hospital, at McKendree, W. Va., is in charge. Other members of the staff are Drs. J. N. Williams, E. D. Wells and J. C. Wysor, formerly surgeon in charge, who will continue in a consulting capacity. Miss Emily W. Brauer, formerly connected with the C. & O. Hospital, at Huntington, W. Va., is superintendent.

Dr. A. S. Priddy,

Superintendent of the Epileptic Colony, near Lynchburg, Va., visited his old home, Keysville, Va., the latter part of March.

Dr. J. Blair Spencer,

Washington, D. C., was a recent visitor to Lynchburg, Va.

George Ben Johnston Memorial Hospital.

As a memorial to the distinguished surgeon, Dr. George Ben Johnston, of Richmond, who spent his boyhood among them, the people of Abingdon, Va., and vicinity, are shortly to erect a handsome hospital. A fund of $30,000 was raised by 150 workers in 8 days for the purpose, and the hospital will be a substantial tribute to a charitable and beloved man.

Dr. and Mrs. R. T. McNair,

Emporia, Va., were visitors in Richmond during March.

Dr. Edward Sandidge,

Of Amherst, Va., visited Charlottesville on business about the middle of March.

Dr. Mary E. Brydon,

A member of the Farmville, Va., Normal School faculty, entertained the doctors of that place at a banquet, the latter part of March.

Lessons in First Aid.

Four classes in "first aid to the injured" have just been formed to meet at different times at the Young Women's Christian Association, the following doctors being the teachers: Drs. H. C. Rucker, W. H. Higgins, B. L. Crawford and A. P. Traynham.

The U. S. Civil Service Commission

Announces an open competitive examination May 2, 1917, for assistant curator, Division of Medicine, for men only. This is to fill a vacancy in the National Museum, Washington, D. C., at a salary ranging from $1,500 to $1,800 a year, and future vacancies requiring similar qualifications. Applicants should be under forty years of age and graduates from schools of medicine or pharmacy of recognized standing. The duties of the position will be the identification, classification, and labeling of specimens exemplifying (a) the history of medicine, (b) materia medica, (c) pharmacy, (d) public hygiene, and the planning and installation of exhibits illustrating these groups.

An open competitive examination for medical interne, for both men and women, will also be held June 6, 1917, to fill a vacancy in St. Elizabeth's Hospital, Washington, D. C., at $900 a year, with maintenance, and vacancies requiring similar qualifications. The positions are tenable for one year, promotion thereafter being made upon examination. Applicants must be 20 years or over, unmarried, and must not have graduated prior to 1915, unless they have since been continuously engaged in hospital, laboratory, or research work along the lines of neurology or psychiatry.

For further information in regard to either examination, apply to above Commission at Washington, D. C.

Wanted:—An assistant resident physician at Catawba Sanatorium. Compensation, fifty dollars per month with board and lodging. Apply to Dr. John J. Lloyd, Catawba Sanatorium P. O., Va.—(Adv.)

Obituary Record.

Dr. Henry Frost,

A prominent physician of Fauquier County, Va., died at his home at Marshall, March 23, at the age of seventy-seven years. He was born in Charleston, S. C. After completing his academic education and receiving his B. A. degree from the South Carolina College, he studied medicine at the Medical College of the State of South Carolina, from which he graduated in 1861. He was elected a member of the Medical Society of Virginia in 1882 and was elected an honorary member in 1906. Several children survive him.

Dr. Walter W. Wilkinson,

Formerly of Washington, D. C., died March 28, at Catawba Sanatorium, Va., at which place he had acted as one of the assistant physicians while his health permitted. He was 40 years of age and a native of South Boston, Va., but had left there about twenty-three years ago. He studied medicine at the George Washington University, Washington, D. C., from which he graduated in 1905 and was located in that city for about eight years before he left in search of a climate better suited to his health. The interment was made at South Boston.

Dr. Brainard W. Hines,

One of the most widely known members of the medical profession in Southwest Virginia, died at his home near Pilot, Va., April 6, aged eighty-three years. He was one of the last surviving graduates of the Winchester (Va.) Medical College, having finished his medical course just prior to its being burned in 1861, when it became extinct. He had practiced medicine in Montgomery County, Virginia, for more than fifty years, and was twice married, both wives having preceded him to the grave. Several children survive him.

Dr. Robert Vernon Palmer,

Who had been practising for some time at Cherrydale, Va., died in Georgetown University Hospital, April 5, having gone there a few days prior to that time to be treated for nervous trouble. His body was taken to his father's home at Port Republic, Va., for burial. He was fifty-three years of age and is survived by his wife and two children, in addition to a large family connection. Dr. Palmer graduated in medicine from the Baltimore College of Physicians and Surgeons in 1894.

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THE DIFFERENTIAL DIAGNOSIS OF INCIPIENT TUBERCULOSIS.*

By J. W. PRESTON, M. D., Roanoke, Va.

To frankly inform a patient that he is suffering from tuberculosis is a hardship; but a failure to diagnose an insidious case until the time has passed for a reasonable hope of recovery is a tragedy. Still, men engaged in sanatoria work tell us that this very thing is happening, even at this late day, so frequently that the greater per cent. of cases applying for admission have crossed well over the line, and their doom sealed before the nature of the malady has been made out.

In observing any community of physicians it is interesting to note that there are two classes in relation to the tuberculosis problem: the one includes those who apparently suspect tuberculosis last of all in debilitated individuals; the other, who suspect it first of all. A patient falling into the hands of the former is in danger of the sins of omission; of the latter, of the sins of commission. To seek out, and sum up the evidence, and at the same time maintain a judicial attitude, is one of the most difficult, exacting and time-consuming problems in medical practice.

The real difficulty in the early diagnosis of tuberculosis is not so much the differentiation from pathological conditions in the usual acceptance of the term, as from the various so-called functional deviations from health, such, for instance, as neurasthenia and exhausted states resulting from various causes such as overwork, worry, dissipation, secondary anaemias, digestive disorders, and a host of other similar conditions which may of themselves be either a part of the tubercular process or its forerunners; and our problem is the greater in that but few of these conditions of themselves afford evidence which is of material aid in exclusion.

In other words, many of them are vague and indefinite, changing from day to day, and of such a character that the patient himself may regard them as of but little consequence. Whether these constitute a pre-tubercular stage, or whether there is in reality such a stage, does not lessen the difficulties and responsibilities of the physician.

A few years ago the situation seemed much simpler than it does now, for then we did not know that over fifty per cent. of our rural population and practically all of our urban was infected with tuberculosis; and it had not occurred to us that there was a difference in a simple infection, healed and lying dormant, and in clinical tuberculosis. The various tuberculin tests then promised to be a simple solution and infallible guide. We then prided ourselves upon our growing astuteness in picking out minute changes in the percussion notes and auscultation sounds, but later found that equal changes were common in healthy chests with healed lesions, and that, while we could pick out small areas of greater density with a degree of accuracy, these were by no means invariably seats of active processes.

Now, to add to our confusion, comes the statement from good authority[1] that we have many more cases of fulminant tuberculosis than we have thought; in other words, that a most rigid examination of a patient today, by an expert, may fail to disclose any sign of tuberculosis, but that inside of a month the same patient may have symptoms so clearly marked that ordinarily he would not be classed as incipient. Be these as they may, let us proceed

*Read before the Southwest Virginia Medical Society, at Roanoke, Va., December 21-22, 1916.

1. Bull. Johns Hopkins Hospital, August, 1915. Page 291.

to the gist of the things of most aid to the general practitioner.

My observation leads me to believe that perhaps the most frequent symptoms of onset in pulmonary tuberculosis are those of recurrent attacks of cold and la grippe, which may or may not be accompanied by cough, together with the usual signs of exhaustion.

Gastric disturbances are, I believe, next in frequency, and I mention these especially for the reason that, being distinct from the chest, one's attention may be, and occasionally is, diverted entirely from the latter, especially in that the myth of a "stomach cough" so often misleads.

One who has not observed the similarity to malaria, of cases suffering with chills in the beginning, may be taken unawares, and in all such, if the usual measures of differentiating the latter fails and the common foci of infection, such as tonsils, sinuses, teeth, kidneys and bladder be excluded, tuberculosis holds the center of the stage. I should emphasize here, however, the invaluable aid of a blood examination, not only in the search for the plasmodium in the first instance, but in the fact that early in uncomplicated tuberculosis the leucocyte count almost invariably runs low, while in purulent infections the reverse is true.

Now, then, in these, as in conditions mentioned at the outset, what are positive aids? If I were confined to any two outside the history, I should unhesitatingly say the thermometer and the pulse—measures at the disposal of everyone. A persistently quick pulse, with a slight rise of temperature at some time in the day, keeping up over any considerable time, is well worthy of most careful attention. Slight changes in auscultation and percussion have been above referred to, and, while suggestive, are by no means conclusive.

The one sign which, if it persists from day to day, is the most diagnostic of all, is that of a definite moist rale or crepitation in the region of the apex. This is, as is well known, best brought out on inspiration following an expiratory cough. The whispered breath sound with its accentuation over the spot of congestion, is, I believe, next in importance, but as consolidation is an essential to bringing it out, it cannot be classed with crepitation for early diagnosis. The changing picture of the breath sound, from the gentle breeze-like murmur in the alveoli to the harsh prolongation of the expiratory sound, cannot with advantage be discussed here.

Of all symptoms, I think I may truly say that early hemorrhage has saved more lives of tubercular patients than any other, since it both emboldens the physician, and leaves the patient in a receptive mood for advice. But just here it is timely to suggest the great importance of making a heart examination preliminary to all lung interrogations, for, though it be rare, a few times in every man's experience he runs across a case of bleeding as a result of mitral stenosis, or one due to pulmonary embolism from other cardiac lesions. In connection with cardiac conditions, likewise, it is apparently becoming more evident that a poor functioning of this organ is responsible for more cases of chronic coughs[2] than we have heretofore thought, the latter a result of a tendency to chronic œdema.

The question of blood pressure, which has grown so much as a diagnostic aid in recent years, can be disposed of by the statement that it almost invariably runs low in tuberculosis, but as the same is true of practically all debilitated conditions, no very distinctive claims can be laid to this as a differential measure except as being suggestive.

Enlargement of the cervical glands in a child raises the question of tuberculosis, but almost hopelessly entwined is that of other bacterial invasions from the tonsils or throat. A careful inspection and proper handling of these abnormalities clears up a surprisingly large per cent. of these cases if done early.

Tubercular invasions of the glands of the mediastinum and abdomen in children are perhaps more common than is generally suspected, and unfortunately we have no means of clear differentiation, though irritability, easy exhaustion, and general debility not otherwise accounted for, should lead to suspicion.

In the matter of meningeal symptoms, a clear spinal fluid with a high cell count, the mononuclear predominating, differentiates from practically all the common forms of meningitis, but since the appearance and cell count is similar in infantile paralysis, the general symptoms must be largely depended upon as a means of definite diagnosis.

Syphilis of the lung, so often referred to as a very rare disease, sometimes occurs when

2. Bronchitis, Chronic.—Lord.—Jour. A. M. A., Dec. 30, 1916. Page 1982.

least suspected. The Wassermann is an invaluable aid, but it must be borne in mind that patients not infrequently suffer at the same time from both tuberculosis and syphilis. This is particularly true of the negro.

It is not unusual to find a certain amount of hyperthyroidism in tuberculosis cases, and a differentiation as to the primary trouble depends largely upon the temperature and chest symptoms. In this connection also falls a class of cases which yield the palm to none in the difficulties presented in diagnosis. I refer to the exhausted female who has been disappointed or, still worse, has watched or nursed a relative through a fatal sickness and who, after a variable period of seclusion and grief, develops hysterical aphonia, along with general debility and nervous cough. In such cases, negative laryngeal and chest examinations, with a normal temperature, is our chief dependence.

Having disposed of the question of some of the variations from normal in the signs and symptoms of the chest, it is eminently proper that we give due consideration to extraneous aids, among the older of which is the microscope. In a truly incipient case it is rare that there is enough sputum to bring with it the organism. In fact, when a case becomes sufficiently open to show the bacilli, as a rule it is rapidly passing the margin of safety. After all, however, it is more than probable that there are but few men of experience who have not at some time been startled to find the bacilli when the chest yielded practically no sign. The presence of even one tubercle bacillus means a positive diagnosis; its absence means little. I believe it to be a matter of common observation that a specimen of sputum set aside for a few days until decomposition takes place, yields up the organism much more readily.

Among the tuberculin tests one may safely say that the von Pirquet is so frequently positive after the age of five years, as to be of no practical value except in a negative way. Those of us who have watched the subcutaneous use of tuberculin since it was begun have seen the pendulum swing first one way and then the other. No doubt, considerable damage has been done both in lighting up the slumbering foci, and in mistaking the rise of temperature and chills following its use as a positive indication of clinical tuberculosis. To sum the matter up, one may say, a focal reaction, that is a definite bringing out of crackles and rales which were before uncertain, is mainly the point upon which the matter hinges, though the symptoms above mentioned, if produced by a small dose, are most strongly suggestive. After all, much is left to individual experience and judgment as to whether such a case is active and requires treatment.

The Roentgen ray has the spot light just at present, and is probably making the strongest appeal of all to the public. In the hands of the expert, who uses a good machine that produces clear pictures, and whose enthusiasm has been sobered by experience, it is another means of showing areas of abnormal density in lung tissues, but it has exactly the draw-back of tuberculin, since an old scar tissue is not clearly and positively differentiated from an active process. Neither will aid materially in differentiating a delayed resolution due to the influenza bacillus or pneumococcus, which we now know to be very important questions in recent cases. In the matter of bone tuberculosis, however, there is much less room for uncertainty.

It would seem well worth while to revert for a moment to the class of individuals above referred to, who, by the various means discussed, are known to be tuberculous, but who do not show the clinical signs and symptoms. As is well known, a large per cent. of these are robust and healthful, and may never come under a physician's observation except it be accidental. Between these, however, and those who manifest such symptoms and signs as to justify a positive diagnosis, there falls a class which occupies a middle ground, "a no man's land." I have in mind, particularly, conditions such as follow pleurisies in which, while there may be no symptoms, one knows full well that there is a smoldering fire; likewise, the individual who goes over a period of years, easily tired out without apparent adequate cause, whose general appearance is constantly below par, and with whom matters physical never seem just right. I am convinced that the sooner we get into the habit of picking out these people and putting them into a class that must be watched more closely than heretofore, and made to avail themselves of all the aids of preventive medicine, the better it will be for all concerned; and the hand

that holds the fate of these is that of the general practitioner.

In conclusion, may we not state that while each year we are learning to utilize more and more accessories in the diagnosis of tuberculosis, the one central fact remains that all of these are but secondary factors, to be taken in conjunction with clinical signs and, more especially, clinical symptoms, which must be weighed in the balance of experience and common sense; for the crucial point is not so much whether a patient has tuberculosis, as whether he has an active tuberculosis. Finally, after all has been done and said, our very best authorities are frankly willing to admit that there are certain cases which time alone will determine, whether they be clinically tubercular. This is no excuse, however, for our failure to be constantly on the alert and to steer our patients to the side of safety.

INTESTINAL OBSTRUCTION CAUSED BY PREGNANCY.*

By T. B. LEONARD, M. D., Richmond, Va.

Intestinal obstruction produced by a band or adhesion is a more or less common affection, estimated to compose about 35 per cent. of all cases by Reginald Fitz, of this country, and Lichenstern, of Germany, and 54 per cent. by Duchanssoy, of France, so the fact that the condition occurred in a parous woman would be of no especial interest.

In the case I am about to report, the point worthy of mention, I think, is that the obstruction in the bowel was due to traction upon a band of peritoneum, normal for that individual, and caused directly by the enlargement of the normal pregnant uterus. To put it differently, the band became pathologic because of the conception.

The patient, a primipara, entered upon the first stage of labor at 10 P. M., December 30, 1915. For the first four hours she suffered no more than the normal pains of dilatation. The cervix at this time was dilated to the extent of three-fourths of an inch in diameter, and the breech presented. This fact, together with the markedly increased severity of the pains caused her to be moved to the Memorial Hospital at 3 A. M., December 31st.

A rectal examination by Dr. Greer Baughman, at 7 A. M., disclosed that the presentation had corrected itself but dilatation had ceased to progress. The pain was now continuous, the woman writhing in agony. It was decided to assist dilatation by the introduction of a dilating bag, which was done by Dr. Baughman, and at twelve o'clock noon, it was expelled. The patient was in good physical condition, despite the excruciating pain and we felt that she would go on to an uneventful delivery.

Figure 1.—Upper diagram—Condition found in early months of intra-uterine life. Note that descending colon and sigmoid are completely suspended. Middle diagram—Normal degree of fusion between serous surfaces. Lower diagram—Showing excessive fusion between serous surfaces, fixing sigmoid and causing angulation.

Two hours later, I was hurriedly summoned to the hospital and informed that she had vomited fecal matter. A consultation was held with Drs. Baughman and La Roque, with the result that the uterus was emptied without delay. The next morning the patient had a return of vomiting of a dark offensive material and it was evident that the obstruction had not been completely relieved. Accordingly, she was submitted to operation which revealed free fluid in the peritoneal cavity, although the appearance of the bowel was normal.

Upon systematic examination of the abdomen, the sigmoid was found to be sharply angulated at the junction of the second and

*Read before the forty-seventh annual meeting of the Medical Society of Virginia, at Norfolk, October 24-27, 1916.

third part, due to a band fixing the proximal sigmoid by its attachment to the broad ligament. The band was cut and the obstruction relieved.

Review of the Literature.—It is interesting to learn that in a large volume of literature, including the Index of the Surgeon-General's Library and the Index Medicus, only two other cases[1] of obstruction occurring during pregnancy or labor were due to a band causing un-

Figure II.—Note low position of the termination of the fused meso-colon and paries. See how easily angulation at the junction of the second and other portions is produced by a tumor lifting the third portion. I have produced same effect by lifting, with a hook, spoken of in text as point "A."

natural fixation of any part of the intestinal canal. Many operators have maintained that the presence of these bands was either harmless or at worst the cause of stasis. Eastman,[2] Fowler,[3] Reed,[17] and others, have expressed this opinion, none mentioning complete obstruction as a result of their presence.

I have here several photographs which show very nicely the nature and position of the band referred to. They are due to fusion between the peritoneal surfaces and you will note in the middle diagram of Figure I, the degree of fusion which is considered normal. Above is seen the condition found in the early months of intra-uterine life where the colon is suspended by a complete and extensive mesentery. The lowest cut shows the abnormal or excessive degree of fusion between the outer layer of the descending mesocolon and the parietal peritoneum, so that the proximal sigmoid is fixed, preventing it from accommodating itself to a new position when necessary from encroachment upon the abdominal space by tumors, pregnancy, ovarian or kidney cysts, or other cause.

You will see in Figure II, the low position of the linea terminalis, fixing the bowel and acting as a guy-string upon it, so that any cause that would elevate the second portion of the sigmoid must cause angulation at point

Figure III.—So-called Royster's band. Adhesion running from sigmoid to broad ligament.

"a." In Figure III, the band described by Royster is badly illustrated, inasmuch as the lower attachment should show connection with the broad ligament. The effect in causing angulation of the sigmoid, however, is the same.

In Figure IV, is shown the so-called M-shaped sigmoid. Figure V is a good illustration of the degree to which the sigmoid should be mobile.

When contrasted with Figure II, the effect of fixation of this portion of the bowel is striking. One can often discern the fixation of the sigmoid by fusion between the meso-sigmoid and a fold of peritoneum caused by the descent from the lumbar region of the sex gland and representing the plica vascularis of the foetus.

The direction of this fold is in the direction of the broad ligament and in effect is identical with the inflammatory sigmoid adhesion.[16]

In the other case of obstruction caused by angulation of the bowel during pregnancy and reported by McPherson,[1] the band concerned in fixing the gut was apparently the analogue of that described here, but occurred on the right side and was called by Lane the ileo-pelvic fold.

Other Conditions Causing Intestinal Obstruction Due to Encroachment Upon the Intra-Abdominal Space.—W. Kohlmann,[7] Michinard,[8] H. Grod,[9] J. W. Bovee,[10] and many others, in exhaustive studies of the effect of uterine myoma complicating pregnancy, note pressure symptoms upon the intestine, but none have observed acute bowel obstruction as a result thereof.

Figure IV.—M-shaped sigmoid due to persistence in the adult of extensive mesentery of foetal life.

J. M. Amster,[4] of New York City, however, reports a case of complete obstruction caused by a fibroid, involving the lower portion of the body of the uterus, which was entirely relieved by hysterectomy. He explains the rationale of the complication as a ball and socket action between the tumor and the true pelvis.

Other men, notably W. F. Shaw,[11] of London, have reported acute obstruction as the result of septic miscarriage.

In these cases, the bowel obstruction was probably the result of a toxic paralysis of the splanchnics, followed by a secondary proteose intoxication,[13] due to tissue disentegration, although enterospasm should be considered in all cases of bowel obstruction unaccompanied by mechanical causes.

This has been very plainly set forth in an article by A. A. Matthews,[15] in *Northwest Medicine*, of September, 1915.

You will understand that in this report no reference is intended to the general matting together of pelvic and lower abdominal viscera as a result of diffuse inflammation caused by infection. We have all seen obstruction due to this cause, both before and after operation. Nor would I deem it of any interest to this Society to report obstruction caused by the adhesions following ventro-suspension. The interest attached to this particular case lies in the fact that, had the patient not conceived, there is every reason to believe from the literature upon the subject, she would have never had intestinal obstruction from the band that

Figure V.—Shows extensive mobility of sigmoid when meso-sigmoid is normal. It can easily be brought up into abdominal wound, as I have done, with the tenaculum.

was found to be responsible.

In this connection it may not be irrelevant to mention a case of obstruction near the splenic flexure, reported by E. C. Bevers,[5] due to the colon passing around the neck of a cyst of the kidney which had become attached to the left lumbar region.

Difficulty of Diagnosis.—It was especially difficult to determine the primary cause of the abdominal pain. Did the uterine contractions precede the pain due to obstruction, or did the pains from the obstructed gut initiate the pains of labor? Surely, there was dilatation of the cervix before any signs of obstruction were evident, but, normally, in a woman at

term there is more or less dilatation before actual labor begins.

Again, it is well known that the pain characteristic of bowel obstruction is markedly paroxysmal, as shown by McGlannon.[12] From the fact that the patient had a normal solid stool at 9 P. M. on the evening of the attack, I am constrained to believe that the labor was primary.

Finally, it would seem from this case, that the significance of the so-called congenital bands or folds as well as the adventitious bands described by Jackson, Jonescu, Lane and others, is greater than has heretofore been supposed. The practical point of the report is that in the routine examination of the abdominal cavity the possibility of these bands being the cause of grave symptoms should be remembered and their removal effected whenever conditions will permit.

Conclusions—1. Encroachment upon the intra-abdominal space by pregnancy, uterine, ovarian or kidney tumors rarely, if ever, produces acute obstruction to the intestinal canal, *per se.*

2. It is probable that the three cases of obstruction reported as a complication of pregnancy or labor, found in the literature, were due primarily to congenital or adventitous bands in the abdominal cavity.

REFERENCES.

1—*Ann. de la Polyclin. de Paris*, 1898, Vol. 758-765 and R. McPherson, *Bulletin Lying-In Hospital of the City of New York*, April, 1916.
2—J. Rilus Eastman, *J. A. M. A.*, August 26, 1916.
3—R. H. Fowler, *Med. Record*, February 26, 1916.
4—J. M. Amster, *N. Y. Med. J.*, August, 1914.
5—E. C. Bevers, *British Med. J.*, March 28, 1914.
6—Scipiades, Reported by H. F. Lewis, *Ill. Med. J.*, May, 1915.
7—W. Kohlmann, *J. So. Med. Assn.*, May, 1916.
8—P. Michinard, *New Orleans M. & S. J.*, January, 1915.
9—H. Grod, *N. Y. Med. J.*, April, 1915.
10—J. W. Bovee, *S. G. & Ob.*, April, 1915.
11—W. F. Shaw, *J. Ob. & Gyn. of Brit. Emp.*, February, 1915.
12—Alexius McGlannon, *J. A. M. A.*, May 22, 1915.
13—Cooke, Rodenbaugh and Whipple; *J. Ex. Med.*, Balto., June, XXII., No. 6.
14—H. F. Lewis, *Ill. Med. J.*, May, 1914.
15—A. A. Matthews, *Northwest Med. J.*, August, 1914.
16—H. A. Royster, *S. G. & Ob.*, August, 1913.
Ibid, *So. Med. J.*, April, 1915.
17—Chas. A. L. Reed, *J. A. M. A.*, September 30, 1916.

300 *Travelers' Building.*

We note from an exchange that over 20,000,000 people in this country are treated by about 27,000 "druglless healers." or a rate of about 750 patients to each healer.

A CLINICAL REVIEW OF FIVE TYPES OF MENINGITIS, WITH SPECIAL REFERENCE TO DIAGNOSIS.*

By W. B. PORTER, M. D., Richmond, Va.

In giving this review, I want to apologize for the elementary way the subject is discussed. To deal with the subject more elaborately would occupy too much time, and is not necessary, considering the view point of the cases which are discussed. I will give as briefly as possible the salient points in the pathology of the types of meningitis illustrated, and will attempt a resume of the symptomatology by giving you the clinical aspects of patients as seen at the bed side. I have purposely avoided any references, but instead, have attempted to describe the patient's course as I have seen it, believing this to be more practical than an academic discussion of the subject. Any criticisms you may wish to make will be of my own clinical observations. It will be gratefully accepted as an evidence of your good will.

First, and the type most familiar to us from personal experience, is tubercular meningitis. It is to be regretted that it is familiar to us, for there is no disease more fatal and none so choice in selecting a promising offspring for its victim.

A superficial glance at the pathological anatomy of this disease will explain most of its clinical manifestations. It is well to bear in mind that the pathology is located principally at the base of the brain; hence, it may be well called a basilar meningitis. The tubercles which are no larger than a millet-seed, follow closely the blood vessels at the base of the brain. The circle of Willis, the sylvian fissure, the surface of the pons, the lower aspect of the sides of the cerebellum, are the parts most frequently involved. Often the tubercles are found over the bases of the central convolutions. Remembering this, we will have a ready explanation for the facial twitchings not infrequently observed in the course of this disease. At times the inflammatory process extends over the surface of the brain as a mengo-encephalitis. At the base of the brain the cranial nerves become imbedded in this exu date, producing the various paralyses seen in this disease. Through the tela, which carries the choroid plexus into the interior of the

*Read before the South Piedmont Medical Society at South Boston, Va., November 19, 1916.

brain, we have an extension of the diseases to the third and lateral ventricles, resulting in an acute internal hydrocephalus. Bearing in mind a picture of the base of the brain with the cranial nerves leaving their nuclei in the pons and medulla, passing on unprotected to their respective outlets, we can readily understand how soon one of these delicate structures would be involved in a pathology which is mainly confined to this particular area. From the fact that these nerves supply such areas and organs whose functions are so important, slight disturbances are quickly noticeable. Without an exception, the eye furnishes the earliest and most fruitful source of this intracranial mischief. The early involvement of the cranial nerves, particularly the third and fourth, will at times be the only thing to direct your attention to the nervous system, as the location of the diseased organ in a patient who is presenting symptoms of some low grade infection. The pathology of tubercular meningitis is fairly constant in its location and always progressive; for this reason the symptoms usually follow a certain definite course. First, symptoms of the early pathology—headache, clouding of the sensorium, cranial nerve palsies, and, later, symptoms of extension of the inflammatory process to the ventricles, with the resulting internal hydrocephalus; i. e., coma and respiratory arhythmia. Owing to the fact that typhoid fever at the onset is so frequently accompanied by clouding of the sensorium and low grade fever, tubercular meningitis is frequently mistaken for this condition. The following case illustrates this point:

White child, age 9, seen July, 1914. Patient had been sick ten days before complaining of headache, and at night would frequently scream out. The patient had one convulsion and vomited several times the following day. A few days later the child was very drowsy and very indifferent to his surroundings. At times he would cry as if in much pain, but would soon return to a state of apparent sleep. The mentality became progressively impaired, until it was difficult to arouse the child sufficiently to take nourishment. One week after the onset there was a drooping of the right upper lid, and at the same time it was noticed that the patient was cross-eyed. The temperature ranged from 99.6 to 101.2 F. Pulse at first was 65 to 70, but later it increased to 115 to 130. The breathing at first was very sighing in character, but after a few days it was more regular, slow and deep. Widal was negative on two examinations. When seen by me the child had been ill ten days from the onset of the first noticeable symptoms, and was practically in a comatose state. There was complete paralysis of the right third nerve and fixation of the pupil in dilation on the left side. Neck was rigid, with a positive Kernig on both sides. Lumbar puncture showed markedly increased pressure of the fluid, which was clear and contained 320 cells per cm., 90 per cent. lym., 10 per cent. polys., globulin positive, T. B. positive. Blood 15800, 80 per cent. polys. Urine negative. The first suggested diagnosis in this case was typhoid, due to the continued fever, slow pulse, headache and mental apathy so frequently seen in enteric infections. The cerebral cries, with gradually increasing stupor, with no remissions, was very characteristic. The eye muscle palsies and pupillary changes were sufficient evidence of intracranial mischief to warrant a spinal fluid examination. These findings appeared six days from the onset of the first symptoms. It might not be out of place to call your attention to the blood count in this case; there was a slight leucocytosis and poly. increase. This is the rule in tubercular meningitis and is frequently seen in other serious membrane involvements by the T. B. organism. The respiratory changes developed rather early. At first, it was of the sighing type, as if the child had been crying; later, slow and labored, due to the resulting hydrocephalus, with the increased intracranial tension. A slow pulse is seen early in the disease, as in this case, due to vagus stimulation, but soon it goes above 100, as in all acute tuberculous infections.

More interesting because we can offer a good prognosis, and, with the advent of spinal-fluid investigations in doubtful cases, probably the most frequent, is syphilitic meningitis.

The most frequent type of brain syphilis is the variety called basal gummatous meningitis. The inflammation usually begins in the subarachnoid tissues, in the region of the optic chiasm, the interpeduncular space, and extends either towards the anterior or posterior portion of the brain. The tendency is for the specific process to extend deeply into the fissures and to become intimately connected with the cranial nerves. Particularly the optic and oculo-motor nerves become inter-

woven with the gummatous exudate, are compressed thereby, and appear studded with little masses of this material. In many cases, however, the large arteries at the base of the brain showed a peculiar tendency to become involved in the gummatous process, the resulting arterial pathology being the so-called luetic endarteritis. Apart from the diffuse basal meningitis, the gummatous deposits and meningitic inflammation may be localized in spots, as, for instance, over the oculo-motor nerve or optic chiasm. The characteristic of brain syphilis is its tendency to appear simultaneously in several locations. This explains, somewhat, the varied symptomatology. Although not as frequent as the above described pathology, there is at times a meningeal inflammation, diffuse or circumscribed, which is confined to the convexity of the brain, and produces a meningo-encephalitis without any basal manifestations. This type produces a symptomatology very different from the usual and more characteristic form of syphlitic meningitis, i. e., that seen with cranial nerve involvement.

The various manifestations of brain syphilis appear with greatest frequency during the first three years of the infection, but it should be borne in mind that at no time after the appearance of the initial lesion is it too early for the spirochete to find a fertile soil in the nervous system of its host.

Illustrating the two types of pathology discussed above, the following cases are selected:

1. Basal syphilitic meningitis. White, male, single, age 36. Seen August, 1914. Had initial lesion eighteen months before, when he had two months of treatment with mercury by oral administration. For three weeks before I saw him, he had been having headaches, which were always worse at night. The headaches were getting progressively worse, so that for the ten days before he had been unable to attend to his regular duties. One week before he had been unable to open his right eye, but this cleared up in forty-eight hours. Three days before I saw him this condition returned and at the same time he noticed his face was drawn to the right side. His brother was much concerned about his mental condition, as he seemed to be so indifferent and apathetic, and this seemed to be progressively increasing. He slept most of the day, but was very restless at night and would frequently scream out, complaining of his head.

Physical Examination: The patient was very indifferent to what he was asked to do while the examination was in progress and would frequently sigh deeply. There was a complete third nerve paralysis on the right side, and a peripheral paralysis of the left facial. The deep reflexes were normal with the exception of the left biceps, which was slightly increased. He also complained of some numbness in the left hand. Examination of his eye ground showed marked distention of the retinal veins, clouding of the nasal side of the disk, but no definite choked disk. Spinal fluid was under marked increased pressure. It was clear, 225 cell per. cm., 96 per cent. lym. Globulin and Wassermann examinations were positive. While under observation during the following week, the patient developed for a few days a semicomatose state which, upon superficial examination, did not differ from sleep or intoxication. Later on he developed violent outbreaks of delirium, which would alternate with apparent absolute coma, but it was possible after much effort to arouse him to perfect lucidity. This case well illustrates the characteristics of this type of brain syphilis—the transient palsies, the progressive stupor and the quick succession with which delirium, coma, and perfect lucidity follow each other. I do not know of any other brain or meningeal condition that has this so well marked. I have no explanation to offer, but certainly it is almost pathognomonic of the activities of the pale spirochete in the brain and meninges.

2. Very different from the above type of case is the following, representing the cortical type of pathology without any basal manifestations: White, male, single, age 31, with no history of any initial lesion. This patient entered the hospital with a condition which had been diagnosed as probable delirium tremens. This diagnosis was based on the extreme nervousness, insomnia and muscular twitchings. When first seen there was not a skeletal muscle that was not in clonic contractions. This was so severe that his speech and respiration were very jerky, and at times it was difficult for him to remain in bed. Clinically, it resembled closely an exaggerated case of multiple paramyoclonus.

Physical Examination: This was practically

negative. Pupils dilated but reacted to light and accommodation. Reflexes exaggerated but no Babinski or ankle clonus. No evidences of paralyses of any of the muscles supplied by either the cranial or spinal nerves. Spinal fluid was under increased pressure and showed 185 cell per cm.; 94 per cent. lym. Positive globulin and Wassermann. This case was undoubtedly one of the meningo-encephalitis type with the process confined to the cortex of the brain, producing marked irritation of the entire motor area, with no basal involvement whatsoever.

It is unnecessary for me to say that I have not covered the entire subject of brain syphilis. My purpose has been to discuss briefly, with illustrative cases, the most frequent clinical manifestations due to meningeal involvement.

The next in importance of the meningeal inflammations represents the only type of pyogenic infections of the meninges for which we have any specific remedial agent, i. e., epidemic meningitis, caused by the diplococcus intracellularis of Weiselbaum. This disease is, as a rule, a very acute inflammatory process, involving the delicate membranes covering the brain and spinal cord. It is destructive in its progress and, unless treatment is begun early, so much damage is done the brain cortex and cord that complete recovery is impossible. At times the process is not so acute, but assumes a subacute stage. The result is prolonged increased pressure within the ventricles (internal hydrocephalus), producing nutritional changes in the brain parenchyma. The diplococcus intracellularis is a pyogenic organism, therefore infection of the meninges with these bacteria will result in a purulent or seropurulent inflammation. There is intense injection of the pia-arachnoid of the brain and cord. The exudate is usually fibro-purulent and found most abundantly at the base of the brain where it accumulates in the various cisterna formed by the reflection of the meninges over the irregular surface of the brain. On the cortex there may be much lymph along the larger sulci and fissures. Sometimes the entire cortex is bathed in a thick purulent exudate. The cord is always involved with the brain. The exudate is more abundant on the posterior aspect and as a rule more abundant in the dorsal and lumbar regions. In the more chronic cases there is a general thickening of the meninges and scattered yellow spots mark where the exudate has been. The brain substance is a little softer than normal, and has a pinkish tinge, with numerous foci of hemorrhages and encephalitis. It must be remembered that the pathology involves not only the surface of the brain, but extends into the ventricles. As the result of this ventricular involvement, blockage of the foramen of Magendie and the aqueduct of Sylvius by the inflammatory products, is not an infrequent occurrence. This explains a "dry tap" after the disease has been in progress for some time and how ineffective the intra-spinous route would be for serum administration. It is in this class of cases, that ventricular puncture is imperative to get at the seat of the disease and to relieve the increased intracranial tension. Just as the pathology may vary in severity and acuteness, so may the clinical symptoms vary. The two following cases well illustrate the two extremes of the disease, i. e., the very acute and the subacute or chronic.

Illustrative of the very acute type is the case of a child, aged 16 months, seen January 2, 1916. The child was taken ill the day before with screaming spells, recurring attacks of vomiting, and had two convulsions, one in the morning and another about 4 P. M. The patient refused nourishment, would frequently scream out as if in much pain, and was very restless. When first seen by the family physician, the temperature was 105° F., pulse 120. Neck was very rigid, and the child would cry severely whenever disturbed. A purgative was given with other symptomatic treatment, but the condition grew rapidly worse. When first seen by me the child was practically unconscious, head drawn back, extremities rigid with muscular twitchings about over the body. Would scream whenever touched, evidently due to a general hyperesthesia. There was an extensive maculopetechial eruption over the entire body and extremities. Pupils were normal; there were no ocular palsies. Positive Kernig and rigid neck. Temperature, 105.6°; respiration, 40; pulse, 145. Lungs clear.

Lumbar puncture was done and 30 cc. of purulent fluid withdrawn and 30 cc. of antimeningococcic serum given. The fluid was under excessive pressure. Cell count 3500, 98 per cent. polys., with a few intracellular diplococci. After a stormy course the case recovered and when last seen showed no signs of a previous meningeal inflammation. This case was typical of the very acute type with high

temperature and rapid course, but I wish to place special emphasis on the normal pupils and absence of paralyses. They may be present, but are by no means so constant as in tuberculous or syphilitic meningitis.

Illustrating the chronic types, we may report case No. 2, negro woman, age 29, single, seen February 2, 1916. She had been sick four weeks with severe headache, pain, stiffness and soreness in neck and back, and pains and stiffness in the muscles, particularly of the lower extremities. At the onset she was taken with a chill and had vomited several times during the first week of her illness. Since the onset, the stiffness and pain in her neck and extremities had persisted. A previous diagnosis of influenza of the brain and muscles had been made by a negro physician who had been treating her since the onset of her illness.

For a few days prior to my seeing the patient, her vision had been somewhat blurred. When first seen there was an expression of pain and anxiety. Neck was very rigid and tender. There was a general hyperesthesia over her entire body and much pain with any motion of her lower extremities. Positive Kernig, and bilateral Babinski. Pupils equal, but reacted slowly to light and accommodation. No muscular paralyses could be found anywhere. Temperature 102.2; pulse 120; respiration 22. Spinal fluid was under excessive pressure, slightly turbid, 1600 cells per cm., 68 per cent. polys. After prolonged search, a few intracellular gram negative diplococci were found. This case was given three doses of 30 cc. each of antimeningococcic serum intraspinally. She was markedly improved in twenty-four hours after the first injection and was up in a normal condition in ten days. This case had undoubtedly had a meningeal infection for four weeks, but there were no pupillary changes, ocular palsies, and very slight mental stupidity. The absence of pupillary changes, mental stupidity, ocular palsies, stand out in bold contrast to that of either tubercular or syphilitic infection.

The joint symptoms in this case were rather characteristic, joint involvement being one of the most frequent complications in the epidemic type of meningitis.

Just as in all other types of pneumococcic infections, that involving the meninges is one of the most severe and quickly fatal. Both clinically and pathologically pneumococcic infection of the meninges resembles very closely the very acute and severe type of meningococcic meningitis. The activities of this organism produce very quickly a purulent inflammation involving both the brain and spinal cord. We find the arachnoid and piamater of the entire brain and cord bathed in a purulent exudate, which by thecal puncture has a creamy consistency and a greenish tinge. The brain very quickly shows necrotic spots with a general hemorrhagic encephalitis. Pneumococcic meningitis is usually a complication of pneumonia or other foci of pneumococcic activity. In this event it is usually a manifestation of a pneumococcic septicemia. No doubt, many cases of pneumonia that die in coma are unrecognized cases of purulent meningitis, due to this organism. When we realize that a large percentage of fatal cases of pneumonia show blood cultural evidences of a bacteremia, this conclusion is made more probable. Occasionally the meninges are the primary seat of the infection. The clinical symptoms begin with a chill, high temperature, and leucocytosis, in the same stormy manner that characterizes the onset of a lobar pneumonia. The following case illustrates the later type:

Negro, male, age 34, entered Virginia Hospital January, 1914. When admitted he was in a comatose state. There was marked rigidity of the neck and back, stiffness of the extremities, and multiple twitchings of the muscles of the face and extremities. He gave a history of having had a chill, followed by severe headache. He had a convulsion five hours later and in ten hours was wildly delirious. He had been unconscious twelve hours prior to his admission, which was approximately twenty-four hours from the onset of his illness. Examination showed the entire body bathed in perspiration and the pupils fixed in dilatation. There was marked nuchal rigidity, a spastic state of his arms and legs, with exaggerated reflexes and bilateral Babinski.

Lungs and abdomen clear. Temperature 106; pulse 120; respiration 22. Leucocytes 44000, and 92 per cent. polys. Lumbar puncture was done and the fluid withdrawn was a thick, creamy pus with a greenish tinge. Stained specimen showed large numbers of pneumococci—all extracellular. This patient died seventy-two hours from the onset of his illness.

This case had all the clinical manifestations of a pneumococcic infection of the lungs without the physical findings in the chest, but, in-

stead, findings referable to the brain and cord of a purulent meningitis. With no evidence of a previous or recent infection elsewhere in the body, the conclusion of a primary pneumococcic meningitis seems to be warranted.

It might be well to speak of some of the findings in the fluid. My experience has taught me that in pneumococcic fluids the organisms are very abundant and easily found. It is different in meningococcic fluids. Even in acute cases a prolonged search is usually necessary to find the meningococcus, which is invariably intracellular, while the pneumococcus is invariably extracellular. I have seen quite a number of cases of meningeal infections complicating pneumonia, and without an exception all have been fatal. I believe we can say that pneumococcic meningitis, either primary or secondary, has a 100 per cent. mortality.

I know that the existence of such a disease as aseptic meningitis seems impossible in the light of our modern bacteriological teaching and our knowledge of pathology, but the following cases seem to prove that such a condition does exist. Cases are reported in German literature with postmortem findings, but no satisfactory explanation is suggested for its pathogenesis. The condition is, as a rule, an acute purulent or sero-purulent inflammation, fatal at times, but the larger percentage of cases recover. As far as modern bacteriology can go we are unable to demonstrate any type of known bacteria, either by smears, cultures, or animal inoculation. I have observed two cases of this class of meningeal inflammation; one was a very mild case, which cleared up in a week, and the other a more severe type. The latter case had a very stormy course, lasting about a month, but finally recovered. I will give a brief outline of the severer case; clinically, it did not differ from any other type of acute meningitis:

The patient had headache, rigid neck, slight mental disturbance, and positive Kernig. Temperature ranged from 102-103.2 F. Spinal fluid was cloudy; 2800 cells per cm., 86 per cent. polys. This fluid was subjected to very careful examination at various times but no bacteria could be demonstrated. Cultures were made and a guinea-pig injected intraperitoneally, but all investigations proved negative. Thecal punctures were done on this patient every other day as long as the fluid remained cloudy and under increased pressure, but was discontinued after the fluid became normal. This case made a complete recovery and, as far as my investigations went, I am forced to the conclusion that no bacteria was responsible for this case of undoubted purulent meningitis.

In giving this review I have placed great emphasis on the clinical distinction between the various types of meningeal inflammations. I believe we can make a diagnosis after a careful history and physical examination. But I would not be doing the subject justice if I did not place the examination of the spinal fluid in the foreground as the only certain way of making a differential diagnosis. The symptoms and findings of one type may be present in any other type, so that the only safe rule to follow is to examine the fluid in all known and suspected cases of meningitis.

It is not within the scope of this paper to discuss treatment in detail, but there are a few salient points I wish to emphasize. In treating the various inflammatory processes with their serous exudates occurring within the cranial cavity, the question of how to deal with the abnormal amount of spinal fluid again looms up in the foreground. There are two principal factors in the pathogenesis of all these conditions: First, the infection, and, second, the increased intracranial tension; and no treatment can be wholly successful which disregards either factor. Whatever the source or nature of the infection, or its effect on the meninges or brain, it has been conclusively shown there is an excessive accumulation of cerebro-spinal fluid, with resulting increased intracranial pressure. Regardless of the nature of the infection, tuberculous, pyogenic, or luetic, we not only must fight the activities of the infecting organism, but must relieve the increased pressure. Serous effusions within the skull, like those within the thorax, are merely the manifestations of some primary pathological process, but pressure within the cranial cavity is the cause of many grave cerebral symptoms and requires relief independently of its origin. We are all familiar with the alarming picture of increased intracranial pressure which finally asserts itself in these cases. I feel certain that the fatal outcome is due to this increased pressure quite as often as the specific action of bacteria or whatever may be the cause of the inflammation. We must, therefore, give

careful consideration to the adoption of means for the relief of tension.

Unfortunately, we have only two remedial agents which are specific in meningeal infections. Flexner's serum in epidemic meningitis, if used early and in repeated doses, is effective in about 65 per cent. of cases. There are three reasons which will usually explain failure with this serum. Just as it has been shown that there are various strains of the pneumococcus, and that the serum of one strain is not specific for that of another, so with the meningococcus. This has been long recognized, and the commercial sera now on the market are polyvalent, representing from twelve to twenty-one strains of this organism. It does happen at times, even with this polyvalent serum, that some infections will not come in the class represented by the serum used, with a resulting non-specificity of the serum.

In discussing the pathology, it was pointed out that sometimes after the disease had been active for a few days, we get a "dry tap" where previously the fluid had flown freely under increased pressure. This is due to occlusion, by inflammatory products, of the foramina leading from the third to the fourth ventricle and from the fourth to the general sub-arachnoid space. In these cases there is no relief of tension by thecal puncture and the specific serum is unable to gain access to the seat of much of the active pathology. Ventricular puncture, to relieve tension and to introduce the serum, should always be resorted to in cases with "dry taps," yet with evidences of increased tension and clinical evidence of continued activity of the infection. The third reason is the delayed use of the serum. All suspected cases should be subjected to careful and repeated spinal fluid examination until all doubt has been eliminated. A good rule to follow is, when in doubt, give the serum, as it can do no harm to any case with a cloudy fluid and in many instances may be life-saving.

The use of iodides and mercury in luetic meningitis is familiar to you, but there are a few suggestions I wish to make which I believe to be of some practical importance. Whether you choose to use salvarsanized serum or not, withdrawal of spinal fluid in amounts sufficient to lower the pressure to a normal level is always indicated. This will not only promptly relieve many of the most severe symptoms, but will increase the circulation of blood and lymph through the brain and cord. This allows a better circulation of your remedial agent, bringing it in larger amounts and in more concentrated solution with the disturbing spirochete, and at the same time promotes a more rapid absorption of the gummatous material. I believe, though, by using the salvarsanized serum we can more quickly accomplish results and, we must agree, the sooner the infection is eradicated, the less permanent damage will be done the delicate nervous structures. Realizing the fluctuating nature of luetic infections of the meninges, we should never be satisfied with clinical eradication of the disease. In no case should treatment be discontinued, regardless of how completely the symptoms have subsided, until the spinal fluid is negative to a Wassermann and shows no cell or globulin increase.

In the management of tuberculous and pneumococcic infections, relieving the excessive pressure by thecal puncture, is the only direct treatment we possess. There are on record authentic cases of tuberculous meningitis that have recovered when repeated lumbar punctures have been resorted to. It seems reasonable to assume, if tuberculous infections elsewhere in the body become arrested, those within the cranial cavity should not always be an exception. The majority of cases of tuberculous meningitis die, primarily, not from the toxemia but from the failure of the cardiac and respiratory centers, because of increased intracranial tension. By keeping this pressure to a normal level, we give the brain and meninges the same chance to combat the disease that is had by organs differently situated. As a rule tuberculous meningitis is a fatal disease, but it behooves us to try this, the only reasonable procedure in an otherwise 100 per cent. fatal disease.

As far as I know, pneumococcic infections of the meninges are always fatal. The more recent biological classification of the pneumococcus with a respective serum, is the only hope. So frequently the meningeal infection is an accompaniment of a general pneumococcic septicemia, that any serum treatment will have to be of necessity directed, not only to combat the local, but also the general infection.

We may hope the future investigations along this line will offer a different prognosis. A prompt recognition of the biological strain, with an immediate administration of the

specific serum, would be the only reasonable procedure in this type of meningeal infection.

The literature on aseptic meningitis is so meager that I can only give you my own experience with this disease. The two cases I have had under observation both recovered. The only treatment used was repeated thecal puncture to relieve tension, ice cap to the head, and symptomatic remedies. Owing to the fact that the meningococcus is almost impossible to find at times, any case showing a cloudy fluid with no other known cause, would be more safely treated with antimeningococcic serum.

In giving this review of these five types of meningeal inflammation, I realize how incomplete it has been. Each type is sufficient for a single discussion. My purpose has been to present the subject as I have seen the cases at the bedside, and to avoid as far as possible any academic discussion. I have attempted to bring out the symptomatology in the clinical histories and in the discussion of the individual cases. The procedures used in each case to arrive at a diagnosis are given in each case report. With two exceptions, all were treated in private homes, so no procedures were carried out that cannot be done outside an institution.

In conclusion, I wish to emphasize one point in particular: A diagnosis of "meningitis" is far from a complete analysis of a given case. We are just to our patients only when we have exhausted all means of arriving at a bacteriological classification, and investigation of the spinal fluid is the only means by which this can be accurately accomplished.

I wish to thank Dr. Manfred Call for the privilege of studying the case of specific cortical meningitis, and Dr. G. C. Woodson for the same privilege in the case of aseptic meningitis.

200 *West Grace Street.*

SOME SUGGESTIONS ON THE ATTAINMENT OF FINANCIAL SUCCESS.*

By IRA J. HAYNES, M. D., Richmond, Va.

There is so much that might be said about the attainment of financial success, and so short a time in which to say it, that the speaker trusts his efforts will be a stimulus to more serious consideration along this important line. It is a common opinion that doctors are poor financiers. For the amount of time put into the study of the science of medicine and the absolute lack of any effort to study the business side of practice, I think it rather remarkable that this is not universally true.

After twenty-five years in the profession and acquaintance with 15,000 doctors, I have observed that the average doctor resents any effort to teach him anything about his profession, though he is usually in a receptive mood for ideas about money making.

Considering the thoroughness of our medical colleges and the high standard required to secure a license, we will take it for granted that all our doctors are competent to render good professional services.

If a doctor would make a business success of his profession, he must believe in himself and convince his clientele that he is capable of rendering valuable services, and thereby make permanent and profitable patrons. Success has been defined as "The attainment and preservation of a practicable and legitimate ideal." For the purpose of this paper, we will regard that man as being a financial success who makes as much money as he needs for the gratification of his legitimate, professional, social and personal ambitions.

He must educate his clientele up to the important fact that his advice is more important in most cases than his drugs; that prevention is greater than cure; that while he entered the medical profession primarily for the *good* he can do, a secondary and important factor is that he depends upon his practice for his support. I would regard that man a failure who enters the profession chiefly for the money there is in it. I would regard him a failure who, having entered for the good he can do, fails of a just recompense of reward in a financial way. It is not within the province of this paper to enter into a discussion of how to secure a successful practice, but I cannot refrain from enumerating some of the things that contribute to success in a professional way. By tact, a doctor should soon become acquainted in a community and should readily adjust himself to his environments. A well-equipped office with neat furniture and appearances of prosperity go a long way in inspiring confidence on the part of his patients. I have never known a successful doctor who habitually engaged in games in his office during the active period of his professional life. He should con-

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vince himself and the community that the practice of medicine is a serious and important business and should be attended to in privacy. He should discourage street consultations and curb-stone prescriptions. He does himself an injustice, and likewise his patient, by haphazard examination and diagnosis. By the same token, he will avoid telephone prescriptions. For such indefinite services it is practically impossible to arrive at a fair basis of remuneration. This is the beginning of the demoralization of a doctor's financial career.

There should be no half-heartedness about a doctor's financial conduct. Let him impress the people that he expects compensation for all of his services. There should be a definite understanding about when bills are to be paid. In doubtful cases a doctor may fortify himself by asking if he will have to run after the money or shall he expect the debtor to bring it to him. Impress upon the doubtful man the importance of sticking to one doctor; that the doctor who is familiar with the family idiosyncrasies can do better work than a stranger. Therefore, "Mr. Doubtful Pay, if you expect *me* to become your family physician, you will have to join the 'Sure Pay' tribe and I am at your services, for my time is too valuable to waste as a collector. It is my purpose to put my spare moments into qualifying myself for increased efficiency." The doctor should set an example in his community by promptly paying his own obligations. He should be just as prompt in sending out statements and insisting on prompt responses.

Much more might be said about the details of collecting, etc., but the great essential principle underlying the financial success of a doctor is that both doctor and patient shall understand that the real basis of *success* is *service;* therefore, "He profits most who serves best." No less an authority than our President has said: "Prosperity is largely a state of mind." This being true, I want to make some suggestions about the psychology of financial success. Time permits of but a mere mention of some of the definite underlying principles involved.

Many people require a complete mental reconstruction in order to bring themselves into harmony with the *law of financial success.* Some will ask, "Is there a law which, if once discovered and practiced, will enable me to accomplish that for which this great modern world is so strenuously striving, toiling and desiring?" "Is financial success the result of the operation of a law, instead of the operation of mere luck, chance or accident?" The great law is as well defined as any other natural law, and when grasped and understood may be practiced and operated just as may any of its related laws on other planes of universal activity.

As to money, its mere possession, even in fabulous sums, does not constitute financial success. The man who seeks money as a thing of value in itself, the man who worships money as a very god, such a man is a fool, for he is mistaking the symbol for the reality; and, likewise, the man who decries the pursuit and desire for money as a foul thing, he who would make of money a devil, this man is likewise a fool. The wise man is he who seeks money as a symbol of something else behind, and who is not deluded by mistaking the shadow for the substance. The wise man makes neither a god nor a devil of money. He sees it as a symbol of almost everything that man may obtain from the outside world, and respects it as such. He sees that avarice and greed are detestable and hurtful qualities of mind. Still, the lack of proper desire for and striving after money makes man a creature devoid of all that makes life worth the living. When a sane man desires money, he really desires the many things that money will purchase. Money is the symbol of nearly everything that is necessary for man's well-being and happiness. Money is but the concentrated essence of things desired, created and established by society in its present stage of development. There may have been times in which there was no money. There may be times coming in which the race will have passed beyond the need of money as a symbol of exchange and possessions, but there is nothing so necessary for man's well-being and contentment as this much abused money. When I say that man needs money, I mean that he needs the many things that money will purchase for him, and for one to decry the desire for money is for him to decry nearly all the good and desirable things in life. We cannot live on beautiful theories, but must have bread and butter and potatoes, and sometimes a piece of pie, and it takes money to get them. Money means freedom, independence, liberty, and the ability to do great good, as well as great evil. It means the filling in of

those mental pictures that we have sketched out in our minds. There are several factors to be considered in making money, the first of which is "*mental attitude.*" Solomon is credited with the adage, "As a man thinketh in his heart, so is he." When we realize a man is the product chiefly of his own thought, then we realize how important it is he should try to regulate his thinking. One's mental attitude is the result of the current of his thoughts, ideas, ideals, feelings and beliefs. You are constantly at work building up a mental attitude, which is not only making your character, but which is also having its influence upon the outside world, both in the direction of your effect upon other people, as well as your quality of attracting toward your self that which is in harmony with the prevailing mental state held by you. Is it not then most important that this building should be done with the best possible materials according to the best plans with the best tools? Then, we may say, a positive mental attitude wins financial success. In this sense we understand positive to mean confident expectation, self-confidence, courage, initiative, energy, optimism, expectation of good—not evil—of wealth—not poverty; belief in one's self and in the *law*. Negative means fear, worry, expectation of undesirable things, lack of confidence in one's self and the law. In other words, one must make himself over, to rid himself of all undesirable qualities and supplant them with the positive qualities. Scientific character building is not a mere idle theory, but a live, vital, actual, practical fact, being put into operation by thousands of individuals all over the world, who are making themselves over by this method, and the prevailing mental attitude is the pattern upon which the brain-cells build. If you can but grasp this truth, you have the key to success in your hands. We are constantly giving other people suggestive impressions of ourselves and qualities. If we go about with the mental attitude of discouragement, fear, lack of self-confidence and the other negative qualities of mind, other people are sure to catch the impression and govern themselves accordingly. If a man comes into your presence for the purpose of doing business with you, and if he lacks confidence in himself and the things he wishes to sell you, you immediately catch his spirit and feel that you have no confidence in him or the things he is offering. But if one comes with the feelings and ideas of enthusiasm, success, confidence in his proposition, etc., he will fairly radiate success towards you, and you will unconsciously take stock in him and an interest in his goods, and the chances are that you will be willing and glad to do business with him.

It can truthfully be said that we attract to us not only people, but actually material things. Fix your mind firmly upon anything, good or bad, in the world, and you attract it to you, for you are attracting it in obedience to the *law*. You attract to you the things you expect or think about and hold in your mental attitude. This is no superstitious idea but a firmly established scientific psychological fact. Fear and worry, and their coterie of off-spring should be banished entirely from our minds, and *faith* should have its full fruition. Faith or confidence is the basis of trade; without it, all commerce would come to a stand-still. Faith in one's self is of primary importance, for, unless one has it, he can never accomplish anything; can never influence any other person's opinion of him; can never attract to himself the things, persons, and circumstances for his welfare. The greatest axiom ever enunciated came from Jesus of Nazareth, when he said: "As is thy faith, so be it unto thee," and faith is just as essential in business as in religion. The one word expressive of a culmination of faith based on a knowledge of one's ability is assurance. The man who has it is already a success, and money will come to him as naturally as water flows down hill. There are many other mental qualities to be cultivated—the development of ambition, desire, and last, but not least, the will. Any one of these subjects is well worth special study. Disreali has said: "I have brought myself by long meditation to the conviction that a human being with a settled purpose must accomplish it, and nothing can resist a will which will stake even existence upon its fulfillment." Sir John Simpson said: "It is wonderful how even the casualities of life seem to bow to a spirit that will not bow to them, and yield to subserve a design which they may, in their first apparent tendency, threaten to frustrate."

To build successfully one must have a plan and make a mental picture of what he wants. The great successful men of the world have *used* their imaginations instead of despising them. They think ahead and create their men-

tal pictures, and then go to work materializing that picture in all its details, filling in here, adding a little there, altering this a bit, but steadily building. So if we want money we must create a mental picture of money and see ourselves using it, handling it, spending it, acquiring more, and, in short, going through all the motions of a man of money. By concentrating our attention and using all our energy, never losing sight of the great service we are rendering humanity, we should readily acquire that degree of financial success that is commensurate with our several abilities.

P. O. Box 24.

Analyses, Selections, Etc.

Diagnosis of Pyloric Stenosis and Pyloric Spasm of the Duodenal Catheter.*

In an article on the above subject, Dr. William W. Howell is a strong advocate of the duodenal tube for purposes of diagnosis in those cases where obstruction to a certain degree is probable at the pylorus. It has no use, he says, in those cases of definite hypertrophic stenosis. The indications given are cases with vomiting, visible gastric peristalsis, no palpable or questionable tumor, stationary weight or loss, with small digested stools. In cases of pylorospasm, a normal-sized catheter will go through with markedly increased reflexes. On the other hand, if there is any obstruction at the pylorus, due either to a partial congenital hypertrophy or to the hypertrophy of an otherwise normal circular muscle due to continued spasm, if that is possible, then the catheter will fail to pass or a smaller one than normal will pass with difficulty.

The size of catheter to use depends on the age and to some extent on the size of the baby. A 13F is advised to begin with. At two months a normal infant should take at least a 15F and at six months an 18F or larger. The tube should not be too soft.

Position is merely a matter of choice. It is advised, however, to have patient wrapped in a blanket to keep arms down. Stomach should be empty, and catheter freed of curds. Catheter should be introduced slowly.

Pharyngeal, cardiac and pyloric reflexes are the guides to a successful operation. The first is soon overcome after passing the pharynx. The second, or cardiac, is met about 18 cm. from the gums, and is observed through the increased gagging of the baby. The pyloric, or third gagging reflex, is observed as the tube passes the pyloric opening.

Evidence of having passed the pylorus: Watching closely the reflexes as they occur, the sense of resistance felt as the tube goes through the pylorus, appearance of bile through suction, and if, on withdrawal of tube, there is a rush of air, it is certain that the tube was in the duodenum.—*Archives of Pediatrics*, March, 1917.

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

The Cause of Poliomylitis.*

Dr. Horace Greeley states that the organism found in the brains and cords of cases which succumbed to our recent epidemic of poliomyelitis, was a bacillus of the group known to cause distemper in many of our domestic animals; that, while by a number of bacteriologists the organism had been described as a streptococcus, it could, at will, be transformed to a bipolar, spore-forming bacillus and then again be made to assume the streptococcus formation.

Intravenous inoculation into cats produced in a small percentage of cases muscle paralysis, but in all, symptoms of distemper, and even death, with marked cerebral and spinal cord engorgement, when as much as 1 cc. of a virulent culture was employed. The organism was recovered in every instance from the brain and cords of the animals that came to autopsy.

Another interesting point brought out was that Pastuerization was no protection against the disease as the cultures in milk survive the official process of heating for a half-hour at 145 degrees F. And, again, it was interesting to note that only a very few cases were recorded among breast fed infants (11 per cent. in a series of 60,000).—*Boston Med. and Surg. Jour.*, April 12, 1917.

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

The Epidemiology of Bacillary Dysentery.*

Seventy-five cases are reported by Dr. Wilson G. Smillie from the service of the Floating Hospital, Boston. Diagnosis was made on his-

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

tory. isolation of the dysentery bacillus, and the development of specific agglutinin in the blood. The investigation included community conditions, neighborhood conditions, temperature and humidity, housing, diet, contact, places visited while infected, and the history of any illness in the house or neighborhood.

The conclusions reached were as follows: There seemed to be no relation between high temperature and humidity and dysentery. The case incidence is more closely related to the incidence of flies. The disease is readily communicable and may be spread by means of contact with an acute case or a carrier, by means of food, as milk, condensed milk and ice-cream, by water, and by flies. It is rarely found in nursing infants. Unsanitary conditions do not cause dysentery, but they are a fertile soil.

Attention is wisely called to the fact that dysentery in the older child and the adult is rather mild, but that the danger of spreading the disease to babies from such sources remains an important factor.—*Amer. Jour. Dis. Children*, April, 1917.

The Occurrence of Acidosis With Severe Diarrhoea.*

In an interesting paper by Oscar M. Schloss and R. E. Stetson, the authors refer to the fact that toxic symptoms which may occur in infants suffering from severe diarrhoea are striking and characteristic. Sunken eyes, depressed fontanelle, inelastic skin (evidence of fluid loss), a mental state which is usually dull and apathetic, often terminating in stupor, but at times characterized by periods of excitement and increased pulmonary ventilation, are prominent symptoms. The urine of infants thus affected almost regularly contains a reducing substance.

This is the symptom-complex formerly described by Finkelstein as "alimentary intoxication." The authors offer evidence to show that these cases are often types of acidosis.

Investigations were made on more than 200 infants. These consisted in the determination of the carbon dioxide in the blood, the carbon dioxide in the alveolar air, the carbon dioxide combining power of blood plasma, the tolerance of soda bicarbonate, the presence of acid bodies in the urine and the ammonia coefficient of urine.

Results of carbon dioxide determinations: It seems definitely established that with the exception of unusual conditions, such as diminished excitability of the respiratory center or altered permeability of the respiratory epithelium, a reduction of the carbon dioxide of the blood signifies a diminution of the fixed alkali of the blood and therefore a condition of acidosis.

Tolerance to soda bicarbonate: In intoxication there is a great increase in the tolerance to soda bicarbonate. They demonstrate also that the intravenous method gives more prompt results and with a smaller dose.

The ammonia coefficient in the urine: Determinations were made in 16 cases of intoxication. In 14, the coefficient was above 20. In two instances it was 8 and 12.5 respectively, which are not unusual figures for infants with nutritional disorders.

Presence of acetone and diacetic acid in the urine: Small amounts of acetone and diacetic were found, but were not present in amounts proportional to the severity of the symptoms or to the degree that the carbon dioxide was reduced.

Treatment: The acidosis is best treated by intravenous injections of soda bicarbonate, 75 to 150 cc. of a 4 to 5 per cent. solution, repeated in eight hours if necessary. In addition, soda by mouth in 2 to 5 per cent. solution so that the patient will receive 2 to 5 gms. per day in this manner.

Dietetic treatment consisted of nothing during the first twenty-four hours except the soda solution. Later, some form of cereal gruel was given and then protein milk, well diluted.

Death occurred in 86 per cent. of the cases. Those not succumbing to the intoxication died later of malnutrition.—*Amer. Jour. Dis. Children*, March, 1917.

The Relation of the Non-Protein Nitrogen to the Urea Nitrogen of the Blood.

Herman O. Mosenthal and Alma Hiller attempt in this study at the Medical Clinic of the Johns Hopkins Hospital to interpret the significance of the percentage of the urea nitrogen to the total non-protein nitrogen in the

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

blood in a series of 165 cases. It was found that the percentage of urea nitrogen exhibited a tendency to increase, whether the total non-protein nitrogen were high or low, in all the diseases considered. Cases with acute renal conditions show a high percentage of the total non-protein nitrogen as urea nitrogen of the blood, which returns to normal as convalescence occurs. Individual patients, whose clinical condition does not vary appreciably, exhibit a constant percentage of urea nitrogen, whether the total non-protein nitrogen persists regardless of whether nitrogen is being retained or lost by the body.

The conclusion is drawn that the body usually metabolizes protein in such a manner that approximately 80 per cent. of the nitrogen set free in the blood is in the form of urea. The selective action of the kidney maintains the urea nitrogen at a level of 50 per cent. or less of the total non-protein nitrogen of the blood. An impairment of renal function, even of very slight degree, may result in an increase of the percentage of urea nitrogen.

From the clinical point of view, figures for urea nitrogen are preferable to those for total non-protein nitrogen because:

(*a*) The method for urea nitrogen of the blood is simpler.

(*b*) The methods for urea nitrogen are perfected so that they yield constant results, which are comparable to those of other observers, while this is not true of the various means of determining the total non-protein nitrogen of the blood.—*Journal of Urology*, February, 1917.

Advantage of Pyelotomy Drainage for Nephrotomy Wounds.

E. L. Keyes, Jr., states that pyelotomy and nephrotomy wounds heal promptly as a rule providing there is no obstruction in the ureter below or in the lower urinary tract. Occasionally, however, operative wounds of the renal parenchyma close with extreme slowness, although there may be no demonstrable obstruction to the outflow of urine. It has been the author's experience, however, that incisions made into the renal pelvis are followed uniformly by prompt closure. He believes that the tardy closure of nephrotomy wounds may often be due to the blocking of the upper ureter by blood and pus. The prompt healing of pyelotomy wounds has led the author to adopt this procedure wherever possible; but where a nephrotomy is necessary, he recommends suture of the incision in the parenchyma and drainage through a counter-incision made in the renal pelvis. He has carried out this plan in three cases with satisfactory results.—*Journal of Urology*, February. 1917.

On the Comparative Influence of Morphine and Total Opium Alkaloids on Renal Colic.

A pharmacological study by David I. Macht, Pharmacological Laboratory, Johns Hopkins University and the James Buchanan Brady Urological Institute, of the action of opium alkaloids on the ureter shows that morhine and codein stimulate its contractions and increase its tonus, while papaverin and narcotin inhibit the contractions and relax the tonus. Furthermore, small doses of papaverin can overcome the spasm produced by large dosees of morphine. This is shown by experiments on the isolated ureter of the pig and also from the operating room and is further corroborated by observations of the ureters in situ in anesthetized animals. In ureteral colic there is a marked spasm of the ureter. Morphine, therefore, through its local action, aggravates the condition. Hence its frequent failure to relieve renal colic except when given in large doses. The relief is induced by morphine only through the narcotic action on the brain. Pantopon (Sahli's mixture) or opium, on the other hand, contain enough of papaverin and narcotin to counteract the spasmodic effect of morphine, and hence are more useful in treating colic. Papaverin, moreover, can be given alone, and that not only by injection subcutaneously, but also by direct application to the ureter through the cystoscope, and its toxicity is not great.—*Journal of Urology*, April, 1917.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

The Involuntary Nervous System. By W. H. GASKELL, M. A., M. D., F. R. S. Published by Longmans, Green & Co., New York. Price, $1.80.

In presenting his work on the Sympathetic

Nervous System, the author was justly guided by the idea that broad physiological problems can be satisfactorily solved with the assistance of morphology and that morphological problems such as those concerned with evolution must take into account the physiological data. The book is divided into eleven chapters in which a detailed description is given of the various systems of involuntary muscle, also, of the various nervous groups or systems which are connected with them. The groups of muscles are: (1) Vascular group; (2) Dermal group (underlying the skin); (3) Endodermal musculature (underlying the surface of the intestines): (4) Muscles around segmental ducts; (5) Sphincter muscles; (6) Muscles connected with adjustment of vision. The motor nerves of all these muscles arise from nerve cells which are situated not in the central nervous system but in the periphery. These peripheral nerve cells with their nerve fibers constitute two distinct nervous systems. One is the "sympathetic" and the other is the "enteral" nervous system. The former supplies the muscular groups 1, 2, 4, 5; the latter, the group 3. The nerve cells of both systems contain both motor and inhibitory cells. The author further discusses the connection of these cells with the central nervous system.

The entire work proves a thorough familiarity of the author with the most intricate problems of physiology. The entire subject is presented in the most accessible manner and is to be highly recommended.

ALFRED GORDON, *M. D.*

Who is Insane? By S. SMITH, A. M., M. D., LL. D. Published by The Macmillan Co., New York. Price, $1.25.

The book is evidently intended for the general public. As such it has certainly accomplished its purpose. The reader will find it very useful as he will be able to form an adequate idea of causes and prevention of insanity. The author speaks in a popular way but quite fully of the characteristics of childhood, adolescence, middle-life and old age. Next chapter is concerned with the important problem of Prevention of Insanity. The third chapter is full of practical hints concerning management, custodial care and State care of the insane. A very instructive chapter is added entitled: "The Lesson Applied to the Feeble-minded and Criminal," and, finally, a few pagees on Eugenics, close the interesting work. The author had a happy thought in adding the last two chapters as they are intrinsically correlated to the subject of insanity.

While the student of psychiatry will not find in the book a dissertation on various phases and on the psychological aspects of the psychoses, as it is not a book on psychiatry, nevertheless, this work is very useful to any reader on insanity. It is well written.

ALFRED GORDON, *M. D.*

A Manual of Pathology. By GUTHRIE McCONNELL, M. D., formerly Professor of Pathology and Bacteriology, Temple University, Medical Dept. Philadelphia. Third Revised Edition. 12 mo., volume of 585 pages, illustrated. Philadelphia and London. W. B. Saunders Company. Cloth, $2.50 net.

Without the intention that this manual should supplant more voluminous books on the subject, the author presents briefly, though clearly, the essential points of pathology. This edition is somewhat larger than the two that have preceded, much new material having been added, much of the old revised, while other parts, particularly the chapter on the Blood, being completely rewritten. The subjects treated include, in addition to the usual general and special pathology, chapters on Bacteria, The Specific Micro-Organisms, Parasites, Post-Mortem Examination, Laboratory Technic, Bacteriological Methods, etc. The volume is sufficiently full for most general needs, is well illustrated, convenient in size, and attractive in appearance, and we believe it will fully measure up to the purposes for which it was created.

Editorial.

The Significance of Laboratory Tests.

It cannot be too often insisted upon that the absence of the reactions which are detected by laboratory tests is by no means conclusive of the absence of disease; the failure to find them merely indicates that, at that particular moment, the patient is not reacting strongly enough in that particular way. The results of previous reactions, as manifested by present clinical signs, furnishes a basis for a diagnosis in every way as potent, and no more lacking in that objectivity which it is the fashion to

claim pre-eminently for certain methods conducted in the clinical laboratory. A moment's reflection shows the fallaciousness of this claim; indeed, a non-reacting pupil, an absent knee-jerk, a positive great toe sign, are no less objective than blood cell count and diazo reaction, or an Abderhalden test; furthermore, these latter are much richer in liability to false interpretations, as well as errors in observation than are clinical signs in the hands of an experienced neurologist.

However, the speed and comparative certainty of some specific biological tests prevents much loss of time, many doubtful diagnoses, and some serious errors. The only protest we have a right to make is against the looking upon of a laboratory test as one of a superior order, a better differentium. However, its only superiority is that it is sometimes more easy to observe, and often more simple to obtain uncomplicated than is the clinical reaction. *If as much attention were given in the schools to the technique of clinical neurology* as is now given to laboratory technique, a great many serious errors of diagnosis would be obviated. For instance, the proper method of eliciting Babinski's toe sign, the proper procedure for ascertaining the pupillary light reflex, the proper method of examining the sensibility, were conspicuously absent in most American neurological clinics as recently as 1907.

T. A. W.

Fifteen New Doctors Enter Navy.

In order that they may enter the Naval Reserve Corps as medical officers at once, the Medical College of Virginia, Richmond, on April 21, announced the graduation of fifteen students in the senior medical class. While their college work ended with the examinations conducted by Surgeon Pryor, of the Navy, they will not receive their diplomas until the commencement exercises are held. The graduates are Drs. Carl Ashton Broaddus, Newtown; Alan Jeffries Chenery, Ashland; Claude Wallop Colonna, Mappsville; Sterling Smith Cook, La Crosse; James Armistead Fields, Norfolk; Bruce Fowler Holdling, Wake Forest, N. C.; William Arthur Morgan, Raleigh, N. C.; Page Oscar Northington, La Crosse; William Tell Oppenhimer, Jr., Richmond; John Judson Sale, Fredericksburg; Toson Olcott Summers, Milton, W. Va.; John Clayton Taylor, Greenville, N. C.; John Willard Vann, Danville; Marshall Henry Hood, Goldsboro, N. C., and Ernest W. Larkin, Carthage, N. C. The two last named were transferred from the North Carolina Medical College upon the consolidation of the two schools.

Summer Medical Classes To Be Held at University of Virginia.

The Board of Visitors of the University of Virginia, at its meeting this month, adopted the recommendation of the medical faculty, that the first, second and third year medical classes be allowed to continue instruction through the summer months, which will enable these classes to graduate sooner and thus aid in meeting the unusual needs of the country for medical service.

At this meeting the following changes in the medical faculty were announced: Dr. Theodore Hough, acting dean, was made dean of the Medical School to succeed the late Dr. Richard H. Whitehead; Dr. James Alexander Waddell was made full professor of pharmacology and materia medica, and Dr. John H. Neff, formerly an instructor, was made adjunct professor of genito-urinary surgery.

The Virginia Public Health Association,

Which held an interesting meeting in Lynchburg the middle of this month, elected the following officers: President, Dr. W. Brownley Foster, Roanoke; vice-presidents, Dr. C. B. Bowyer, Stonega, and Mrs. J. B. Ransom, Richmond; secretary-treasurer, Dr. Roy K. Flannagan, Richmond; assistant secretary-treasurer, Dr. C. C. Hudson, Danville, and members of the executive council, Drs. A. C. Fisher, Emmerton; R. T. Ramsey, Gretna; M. J. Payne, Staunton; Ennion G. Williams, Richmond, and W. S. Keister, Norton.

Married—

Dr. Claude C. Coleman and Miss Julia Langhorne Cone, both of this city, April 28.

Dr. George Burley Martin, Richmond, Va., and Miss Anne Florence Jones, of Lake City, S. C., April 19.

P. A. Surg. Robert Francis Jones, U. S. Navy, formerly of Petersburg, Va., and Miss Anne Elizabeth Penniman, Savannah, Ga., April 24.

Dr. Fontaine Graham Jarman, Rosemary,

N. C., and Miss Sally Long, Garysburg, N. C., April 24.

Dr. Minor Carson Lile, University, Va., but recently an interne at New York Hospital, and Miss Gretchen Edgar, Essex Fells, N. J., April 17.

Two Hospital Ships Sunk.

The British hospital ship, Salta, was sunk by a mine in the English Channel on April 10, fifty-two persons being drowned. There were no wounded on this boat at the time of the sinking. When the British hospital ship, Gloucester Castle, was torpedoed in the English Channel, March 30, all the wounded were saved.

The two British hospital ships, Donegal and Lanfranc, torpedoed April 17, met with a worse fate. Twenty-nine wounded men and twelve of the crew of the Donegal are missing and thirty-four British and German wounded are believed to have perished on the Lanfranc.

Dr. James M. Whitfield,

City Chemist of Richmond since the establishment of this office seven years ago and assistant coroner, has been appointed coroner of Richmond, to succeed Dr. William H. Taylor, deceased. He has not at this time named his assistant.

It is stated that the office of city chemist will most probably be abolished, the duties of this department being assumed by the City Bacteriologist.

M. C. Va. Students Win Internships.

Of ninety-six applicants for internships in the Cincinnati General Hospital, there were only thirty who obtained the required grade by competitive examination. Of this number, three were from the Medical College of Virginia 1917 class as follows: W. G. Suiter, S. B. Nickels and Churchill Hodges. The hospital, which has 850 beds, is considered one of the finest and largest in the United States.

Dr. Hunter L. Gregory,

Of Chicago, who graduated from the Medical College of Virginia in 1915 and was appointed an intern in the U. S. Marine Hospital, at Chicago, has been visiting at his old home in Chase City, Va.

Dr. W. R. Williams,

Richlands, Va., has been appointed by Governor Stuart as a member of the Board of Visitors of the Virginia School for the Deaf and Blind, at Staunton, to succeed Dr. George E. Wiley, of Bristol, resigned.

Dr. and Mrs. Edward McGuire,

Of this city, have been spending sometime in Washington, D. C.

Dr. W. L. Devany,

Dendron, Va., who was operated upon at St. Elizabeth's Hospital, this city, recently, is improving.

General Education Board.

The report of the secretary for 1915-1916, calls attention to the fact that this Board has made large gifts to the medical departments of the Johns Hopkins University, Washington University, and Yale University and, even then, was participating in the creation of the Medical Department of the University of Chicago. These gifts were made in order that qualified teachers and investigators might be freed from the distractions of general practice and devote themselves unreservedly to teaching and research.

After investigation by this Board upon existing facilities in the United States for the training of public health officials and the discovery of the great need of such a school, the Rockefeller Foundation decided to establish a School of Hygiene and Public Health at the Johns Hopkins University, Baltimore. Funds will be provided by the Foundation for the erection of a suitable building in immediate proximity to the hospital and medical laboratories of the Johns Hopkins University. It is expected that this school will be opened in October, 1917. Dr. William H. Welch, of the medical faculty, will be director of the school.

Dr. Hugh J. Baker,

Formerly of Nickelsville, Va., has moved to Kingsport, Tenn.

Dr. Louis L. Putney,

Who graduated from the Medical College of Virginia in 1914, has been elected an assistant physician at the Western State Hospital, Staunton, Va., to succeed Dr. H. G. Middle-

kauff, who resigned to accept a position with the C. & O. Hospital at Huntington, W. Va.

Blindness in the United States.

The report on the blind in the United States, to be issued by the Bureau of the Census, indicates that 30.8 per cent. of the blind population lost their sight when less than 20 years of age (including those born blind); 47.4 per cent. between the ages of 20 and 64 years; and 21.8 per cent. after the sixty-fifth year. The blind population of the United States enumerated in 1910, in connection with the census, was 57,272. Since 1880, there has been a distinct decrease in the proportion of blind who lost their sight in infancy, which is largely attributed to the prophylactic treatment of ophthalmia neonatorum, discovered in 1884.

The proportion of blind who lost their sight during the early or middle years of adult life has increased somewhat since 1880. This is probably due to the great industrial growth in the United States in the last 30 years, blindness being caused by occupational injuries or diseases. Marriage among the blind is by no means rare, but blindness is less a bar to marriage among the males than among the females.

Doctors Needed for Military Service.

At a meeting in Washington, April 17, consideration of medical problems to be faced during the war was taken up by the medical section of the Council of National Defense. Detailed plans for the protection of food and water supplies from pollution and arrangements of diet for the nation were discussed. The medical section includes in its membership some of the country's foremost physicians, including the surgeon-generals of the army, navy, and public health service.

One of the most important subjects discussed by the Council was the obtaining of a sufficient number of doctors for the army and the equipment of military hospitals. It was decided that the army regulations requiring that medical recruits should have at least a year's hospital experience should be observed. The point was made that from 3,500 to 4,000 physicians who graduated last year should have had the required hospital experience.

Dr. W. Ashby Frankland,

Of Washington, D. C., has been elected president of the George Washington University Medical Alumni Society.

Open Air Meetings To Combat Tuberculosis.

Under the auspicees of the Richmond Anti-Tuberculosis Association, several open air meetings were recently held one afternoon in various sections of the city and followed by moving picture films, to advertise more widely the various facilities which Richmond has established for the care of the colored consumptives. Among the speakers were Dr. E. C. Levy, chief health officer of the city; Drs. R. K. Flannagan and W. A. Brumfield, of the State Health Department; Drs. P. D. Lipscomb, J. G. Nelson, Giles Cook and B. E. Summers.

Dr. and Mrs. John E. Mapp,

Keller, Va., have been recent visitors in Suffolk, Va.

Dr. Hugh Hill

Has returned to his home at Locust Dale, Va., after a short stay in Culpeper, Va.

Dr. Dandridge P. West,

Norfolk, Va., is in charge of the Better Babies' Contest which is to be held in that city, early in May.

The American Pediatric Society

Will hold its twenty-ninth annual meeting at The Greenbrier, White Sulphur Springs, W. Va., May 28, 29 and 30, under the presidency of Dr. F. S. Churchill, of Chicago. Dr. Howard Childs Carpenter, Philadelphia, is secretary.

Doctor Rewarded for Kindness.

Dr. Charles W. Allen, Washington, D. C., for being kind and attending her faithfully in her last illness, was willed the entire estate of one of his patients, with the exception of $5 bequeathed a niece. He was also made executor without bond. The doctor is to be congratulated on his good fortune.

Surg. Hugh S. Cummings,

Of the U. S. Public Health Service, was recently re-assigned for duty in the Hygienic Laboratory, Washington, D. C.

A Recommendation for Bubble Fountains.

At the University of Wisconsin, an epidemic

of tonsillitis was traced to bubble fountains in the building. Inspection showed that the water pressure in the fountains was so low that it was hardly possible to drink from them without touching the lips to the metal. Examination disclosed the fact that germs lurked in the opening of a number of the fountains while the supply of city water was pure. It was found that the fountains must be constructed so that the water came from tubes erected at an angle of fifteen degrees or more from the vertical, to overcome this difficulty.

Dr. Roy Preston Sandidge,

Who graduated from the University of Virginia in 1914, was among those appointed and commissioned Assistant Surgeons in the U. S. Public Health Service on March 22, 1917.

Dr. Paul V. Anderson,

Of Westbrook Sanatorium, this city, was elected vice-president of the Virginia alumni of Trinity College, at its meeting in this city April 14.

Memorial Hospital To Organize Base Hospital.

Memorial Hospital, this city, is planning for the establishment of a base hospital unit, and Dr. Robert C. Bryan, who saw service in French war hospitals last summer, has been appointed director by the American Red Cross. Approximately 175 people will be required to fill the ranks of the base hospital, including physicians, surgeons, dentists, pharmacists, nurses, nurses' aids, clerks, orderlies, porters and cooks. The equipment consisting of beds, linen, hospital garments and dressings, costing about $7,500, is to be furnished by the Richmond chapter of the Red Cross, and the purely medical equipment will be furnished by the American Red Cross. This will cost about $25,000.

Typhoid Bacillus Carrier for Many Years.

The Bulletin of the Department of Health of New York City reports an instance of where an outbreak of more than 300 cases of milk-borne typhoid fever in that city was traced to a typhoid bacillus carrier in the person of a dairyman operating in a small village in Central New York. The man had his typhoid infection forty-six years previously when a young man. He was kept under observation by that Department and a local health officer for four or five years thereafter, until his death, and bacteriological stool examinations made from time to time during this period showed that he remained a carrier.

Dr. Vance M. Cox,

Chilhowie, Va., has resigned as secretary-treasurer of the Smyth County (Va.) Medical Society, and went to New York the first of April to specialize in eye, ear, nose and throat diseases. Dr. E. E. Neff, Chilhowie, has been elected to succeed Dr. Cox as secretary-treasurer of the Society.

Dr. John Cope,

Of Greensburg, Pa., accompanied by his famliy, has arrived in Big Stone Gap, Va., where he expects to spend several months.

Dr. Emory G. Valk,

Of Lake, Va., was a recent visitor in Baltimore, Md.

Dr. W. A. Harris,

Of Spotsylvania, Va., was a visitor in this city, early in April.

Speak at V. P. I. Banquet.

Drs. J. E. Warinner and L. T. Price, of this city, were among the speakers at the annual banquet of the Richmond Alumni of the Virginia Polytechnic Institute on April 12.

The National Association for the Study and Prevention of Tuberculosis

Meets in Cincinnati, O., May 9, 10 and 11, under the presidency of Dr. E. R. Baldwin, Saranac Lake, N. Y. Drs. Charles R. Grandy, of Norfolk, and John J. Lloyd, of Catawba Sanatorium, are members of the medical profession appointed as delegates from Virginia.

Dr. Henry S. Stern,

Of the Richmond Health Department, gave a lecture at one of the public schools of this city, April 19, on "Bacteria, the Friends and Foes of the Housewife."

A Medical School Advances Its Charges.

We note from the *Journal A. M. A.*, that the George Washington University, Washington, D. C., will increase charges in its medical

school from $150 to $175 a year, and in its dental school from $125 to $150 a year, to take effect next fall. This is done to meet the increased cost of supplies and to permit an enlargement of educational facilities.

The Graduate Nurses' Association of Virginia,

Which met in Lynchburg about the middle of this month, elected the following officers for the ensuing year: President, Miss Ruth Robertson, Richmond; vice-presidents, Misses Florence Bishop, Harrisonburg, and Mary Brightwell, Lynchburg; treasurer, Miss Rita App, Lynchburg; secretary, Miss Josephine McLeod, Richmond, and board of directors, Misses Agnes Randolph and Rose Van Vort, both of Richmond. The next convention will be held in either Richmond or Norfolk, the time and place to be named later.

Dr. Robert C. Bryan,

Of this city, addressed the Richmond Nurses' Club, April 2, on his hospital experiences in France last summer, and also on the need of preparedness in nursing organizations in view of the United States entering war.

Flag Presented Medical College of Virginia.

On April 10, students of the Medical College of Virginia, of this city, presented the College with a handsome United States flag, which was raised with suitable ceremonies over the main building. The flag was presented on behalf of the student body by W. G. Suiter, of the senior medical class and was received on behalf of the faculty by Dr. Thomas W. Murrell.

Dr. Hugh R. Black,

Spartanburg, S. C., has been elected president of the Board of Health of that place.

Dr. Meade S. Brent,

Who spent several days early this month at his old home, at Heathsville, Va., has returned to Petersburg.

Dr. James H. Smith

Is instructor for a new class in first aid to the injured, which has been started at the Y. W. C. A., this city.

The Alienists and Neurologists

Will hold their annual meeting July 9-12, 1917, in LaSalle Hotel, Chicago, Ill., under the auspices of the Chicago Medical Society. The program will be mailed June 28, with an abstract of each paper. Contributors to the program are solicited. This is a society without a membership fee. For further information, address the secretary, Dr. Bayard Holmes, room 1218, 30 N. Michigan Avenue, Chicago.

The Rockefeller Foundation,

During 1916, appropriated to the International Health Board $611,557.16. "The work of this Board consists chiefly in demonstration, in cooperation with the governmental health authorities in southern states, in several Latin-American countries, and in many of the British colonies, of methods for the relief and control of hookworm disease. The Board has also made a survey of the principal endemic foci of yellow fever with a view to measures for the complete eradication of the disease. Experiments in economical methods for the control of malaria are also being carried on."

The China Medical Board received from the Foundation during the year $1,068,147.17 for the promotion of medical education in China. Besides assisting some of the best medical schools established under American auspices in China, it is formulating plans for the building up of medical schools of the first rank at Shanghai and Peking, in co-operation with various boards.

Dr. Horace L. Goodman,

Thayer, W. Va., has been appointed superintendent of the Miners' Hospital at McKendree, W. Va., to succeed Dr. Benj. B. Wheeler, who is now in charge of the C. & O. Hospital, at Clifton Forge, Va.

Tuberculosis Is Peril of Modern Warfare.

In a talk given before the Alumni Society of Bellevue Hospital Medical College, Dr. Hermann Biggs, commissioner of health of New York, who was sent by the Rockefeller Institute upon invitation of the French government to study the tuberculosis problem in France, stated that tuberculosis is the greatest disease peril of European warfare. Living in the trenches and dugouts as do the European soldiers is not conducive to health as is living in tents in the open air. He asserted that there are 400,000 to 500,000 cases of tuberculosis

in the military and civil population of France at this time and is informed that what is true of France is likewise the condition in Austria-Hungary and Russia.

Opium Taken By Law To Be Used.

It was reported to the National Academy of Sciences, meeting in Washington this month, that large quantities of opium seized by officers sent out by the government to enforce the anti-narcotic laws, will be used in making valuable hospital drugs which have been made scarce by the war.

Interne at City Home Resigns.

Dr. Joseph Heyman has tendered his resignation as interne at Richmond City Home to accept an appointment at Memorial Hospital, this city.

American Red Cross Car No. 2,

Which has been teaching first aid to the injured to Chesapeake and Ohio railway employees February 5, reached Richmond April 23. It was first in charge of Dr. Edward R. Hunter, of the American Red Cross, and later of Capt. M. J. Shields, medical corps, U. S. A. President Stevens and chief surgeon, Dr. W. T. Oppenhimer, were instrumental in securing this instruction for their road.

Obituary Record.

Dr. William Henry Taylor,

One of the best known teachers and scientists of this State, died at his home here April 14, after a short illness resulting from grippe. He was born in Richmond May 17, 1835, and, after a prepartory education in private schools, entered the Medical College of Virginia, from which he graduated in 1856. At the beginning of the war between the States, he entered the Confederacy as an assistant surgeon, later being made a surgeon, and remained in the service until the surrender at Appomattox. He was badly wounded at Gettysburg.

In 1868 he became a lecturer and later a professor in the Medical College of Virginia, filling most ably the chair of chemistry, toxicology and medical jurisprudence for a long number of years, being elected professor emeritus when he resigned upon the consolidation of the two Richmond medical schools. He was made coroner of Richmond in 1872 and held this position until his death—for forty-five consecutive years. During this time, he was called upon for an opinion in nearly every criminal poisoning case tried in the State. Only recently he completed the investigation of his ten-thousandth case of criminal poisoning. He was recognized as an author and scientist of ability. Dr. Taylor was professor of chemistry in the Richmond High School for nearly thirty years, a member of the Richmond Board of Health for twenty years, and was State Chemist of Virginia until that office was abolished in 1906. He was also one of the charter members of the Medical Society of Virginia.

Although unmarried, he is survived by a large family connection, including three brothers and two sisters. He was a man of many admirable traits and with a disposition and friendliness which endeared him to many. He had received numerous tokens of esteem from friends and pupils. Resolutions paying tribute to the memory of Dr. Taylor have been passed by the faculty of the Medical College of Virginia.

Dr. Joseph D. Alderson,

One of Washington County's most prominent physicians, died at his home at Meadow View, Va., March 30. He was born November 29, 1842, in Lebanon, Va. After receiving his education at the Lebanon Academy, he took up the study of medicine at the Kentucky School of Medicine, from which he graduated in 1876. He had been a member of the Medical Society of Virginia since 1885, and was also identified with his local medical society.

Dr. Charles Locke Skinner,

Of Charlestown, W. Va., died March 24, at the age of forty-two years. He was a graduate of the University of Virginia, Charlottesville, in 1897.

Dr. Emil von Behring.

The death is announced of Dr. von Behring, aged 73 years, professor in the University of Marburg, Germany, who was made famous by his discovery of diphtheria antitoxin in 1894, the early use of which has saved countless numbers of lives. He received the Nobel prize in 1901 and was the recipient of many honors conferred by learned societies.

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A PLEA FOR CLOSER CO-OPERATION BETWEEN DENTISTS AND PHYSICIANS.*

By THOMAS J. TUDER, M. D., Keokee, Va.

The brilliant work of Dr. W. D. Miller, published in 1889, showed conclusively that mouth infections cause constitutional diseases, but until comparatively recently both the medical and dental professions paid little attention to this subject, most of them believing that it occurred very rarely, if at all. Later, Rosenow, Billings and Hartzell brought the matter more prominently before the professions and within the last few years the literature on the subject has been abundant.

We have known for a long time that an abscess, for instance, about the knee, may cause endocarditis, or situated anywhere may produce chills, fever, and sweat, and all of us have seen gonorrheal arthritis secondary to urethral infection, but that an abscess about a tooth fang, frequently without giving any pain or other symptoms to draw attention to its existence, may cause acute, chronic, or recurring disease of various remote structures of the body is recent news to the rank and file of both professions.

Rosenow proved that streptococci, in the presence of oxygen, usually possess low virulence, and as the oxygen supply decreases the virulence increases, reaching its highest point when the oxygen supply is cut off entirely. More interesting still, and of equal practical value, is his demonstration of the selective affinity of the different strains of streptococci for special tissues, the streptococcus viridans usually selecting such tissues as joints, tendons, aponeuroses, muscles, and the tissues of the heart, and when the virulence of the streptococcus is increased this same strain may produce cholecystitis, pancreatitis, gastric or duodenal ulcer, appendicitis, thyroiditis, neuritis, oophoritis, or even severe anemia.

The most prevalent disease of civilization is caries of the teeth, and pyorrhea alveolaris is also a universal disease. Dental caries occurs at all ages, from the eruption of the deciduous teeth to the end of life, while the chief period of incidence of pyorrhea is from twenty-five to sixty years of age, it being rare in the first two decades of life. These two diseases are the chief factors in making of the mouth the dirtiest cavity of the body, a veritable cesspool of filth.

Wild animals have excellent teeth, at least few have many decayed before their natural lives are half spent. Mummery reports the following results of the examination of ancient skulls: Only 15 per cent. of Anglo-Saxon skulls showed evidence of tooth decay, 2.9 per cent. of British skulls of the Stone Age, 21.8 per cent. of British skulls of the Bronze Age, and 32 per cent. of British skulls of the Romano-British Age. Coming to uncivilized races, 1.4 per cent. of Esquimaux showed evidence of decay, 3 per cent. of Maoris, 3.9 per cent. of Northwest American Indians, and 5.2 per cent. of Fiji Islanders. Contrast these figures with an examination of 10,500 school children in England and Scotland, showing caries in 86 per cent., 19,725 in Germany with caries in 95 per cent., and 3,236 school children in Philadelphia, between the ages of seven and fourteen years, showing decay or loss of 5,575 first molars and 2,188 other permanent teeth. Pickerell made an examination of 260 Maori skulls, from an uncivilized age, and found evidence of decay in .76 per cent. and then later examined Maori children in two schools, after being brought under the influence of civilization, and found 15.6 per cent. of their teeth carious.

*Read before the Wise County Medical Society, Appalachia, Va., March 28, 1917.

Even Hippocrates was interested as to the cause of dental caries, ascribing it to disturbance of the humors of the body; in the Middle Ages the worm theory was accepted. Later abnormal chemical bodies were thought to be the cause, white decay being charged to nitric acid, yellow to hydrochloric, and brown to sulphuric, and then with the rise of the science of bacteriology the septic theory came to the front, and now we have the chemico-bacterial as the most popular. This latter explains that certain of the mouth organisms produce enzymes, which set up fermentative processes in the carbohydrate food materials in the mouth, resulting in the formation of acids, chiefly lactic, producing dissolution of the inorganic substances of the teeth, and with the erosion of the harder portion of the teeth, the pulp is exposed to infection. However, a great many earnest students of the subject do not believe that the last word has been said yet, for they cannot understand why tooth decay goes hand in hand with civilization. May it not be that wild animals and uncivilized races receive some substance in their food, which cooking or other modern methods of preparation eliminate or alter in our food, which substance in its action in preserving the teeth is analogous to vitamines in maintaining the health of the body? The pediatrists are emphasizing the theory that the feeding of pap in childhood is a prolific source of tooth decay and the familiar figure of the little pickaninny in the doorway of the cabin homes of the negroes of the South chewing a tough meat skin, may mean much for the integrity of the teeth of that race.

"The development relationships between the jaws and other bones of the face are strikingly shown by the marvelous development of this region which occurs in the first two years of life, more marked than in any other part of the body. It is a favorite saying that 'beauty is skin deep,' but how false this is! Beauty, as applied to human beings, ordinarily refers to the aspect of the face, and here beauty is 'bone deep.' No matter how fine the complexion or texture of the skin, there is no beauty in overshot jaws, receding chins, and crooked teeth, or in the vacuous expression of the habitual mouth breather. As we give so much thought to our personal appearance, and as we are so much judged by our appearance, and the impressions we create are to such an extent dependent on it, how important it is, then, that parents should very early be properly advised as to the care of their children's mouths, in relation to the development of their faces."—(McCleave).

Durand says, "I wish to emphasize the prevention of decay, which may be effected through the selection of food and its proper sequence during the meal. The last article eaten should be one which will cleanse the teeth and leave no sticky, carbohydrate, decay producing residue. A tooth brush will not remove sticky pastries, cake and other carbohydrate remains from the fissures of the teeth, but meat, a green salad, celery, radish, onions, apple, orange, and fibrous food generally, under the 100 to 250 pounds pressure of the healthy bite, will grind such food out and the residue left, if any, will have a detergent action toward caries. Pickerell, in his exhaustive work, has shown that the amount, ptyalin content, and alkalinity of the saliva secreted in response to various flavors, acidity and hardness of foods varies greatly. Acid fruits produce much highly alkaline saliva, a high ptyalin content, and are an ideal food with which to finish a meal. Sim Wallace, applying these principles, and directing the diet from an early age in fourteen children, found at the ages of from five to seven years 'not one tooth showing the slightest trace of caries.'"

Morehead classifies alveolar abscesses as primary and secondary; primary, those in which infection occurs through the root canal from an infected pulp; from faulty technic in root canal treatment; from a failure to adequately seal the root canal and pulp chamber in the introduction of permanent filling materials. The secondary infections are blood borne, the predisposing cause being a lowered resistance in the peri-apical tissue brought about by the careless use of arsenic as a devitalizing agent or the use of irritating agents in the treatment of root canals.

So, frequently in association with suppurative conditions within the mouth, we find infections of adjacent structures, such as the tonsils and other pharyngeal and nasal structures, and less frequently sinus disease, middle ear inflammations, and inflammatory eye disturbances, all of which have been known to come by direct extension from oral foci.

Perhaps no subject in medicine and surgery today is fraught with more far reaching consequences than that of focal infections. When

men like the Mayos come to the conclusion that ulcer and cancer of the stomach, duodenum and gall bladder are due to dental infection, and when rheumatism is being dropped out of medical nomenclature and its place taken by metastatic arthritides, septic polyarthritis, and other modern designations, all meaning something, and when this disease, hoary with age, associated in the minds of the laity and the profession with exposure to cold and dampness, is shown to be practically always the result of focal infection, most frequently from the mouth or tonsils, and when the list of diseases of the same etiology, in many instances, embraces the following: arthritis deformans, osteitis, endocarditis, pericarditis, myocarditis, endarteritis, acute and chronic parenchymatous nephritis, cholecystitis, appendicitis, meningitis, thyroiditis, neuritis, oophoritis, various ocular diseases, and furunculosis, it is well for us to wake up and call on our dental friends to "Come over in Macedonia and help us." A distinguished neurologist has recently said that 80 per cent. of the cases of chorea are caused by streptococci, and time after time tubercle bacilli have been isolated from carious teeth, and many of us believe that when the mists have cleared away and we understand the matter, the tonsils, which we have attacked so vigorously and blamed for so many things, from tubercular lymphadenitis, all the way down through the neck to pulmonary tuberculosis, will be found to be less of an offender in this respect than carious teeth and diseased gums. The United States Government recognized something of the trend of oral infections long ago, when they commenced to refuse to accept men in the army or navy, who did not have at least four molar teeth in contact, because statistics had shown that men without molars spent too much time in the hospitals and became a charge upon the government.

Surgeons are coming to believe that the pain, swelling, local fever, etc., following some days after, for instance, a Colle's fracture, are not all from the orderly process of repair, but that a focal infection somewhere in the body has sent to this point of weakened resistance either the germs of infection or their toxins. This same theory also explains why, after a contusion, when there has been absolutely no break in the skin, we frequently have a more or less virulent suppurative process, which we designate as a traumatic abscess, and I have been wondering lately if some of our cases of puerperal sepsis, which come now and then despite every possible precaution, may not be explained on exactly the same basis. This opens up a vast field for investigation and study.

What is the *modus operandi* of this infection? As to the cause of dental caries, I pass that by as an unsolved question, but the tooth decays and the cavity appears. The pulp chamber is then converted into a culture tube, providing all the essentials for germ growth, moisture, heat, food, etc. Once this putrescent mass is present within the tooth, there is no known method of spontaneous cure. The germs are now swallowed, and if they survive their passage through the gastric juices, the only other barrier is the intact mucous membrane of the intestines, and once that is broken or passed, they are in the systemic circulation. Another way they may get in is directly from the tooth, each tooth being abundantly supplied with blood, and a nerve through which infection, or at least the toxin, may enter the system, producing various types of neuralgias. neuritis, etc. Similarly, infection may spread from pyorrhea alveolaris, even if the teeth round about be absolutely sound. The swallowed germs have the same barriers to pass, and they or their toxins may also be taken into the general circulation through the abundant blood supply of the gums.

As already indicated, clinical experience has demonstrated that here as elsewhere the closed abscess is most dangerous, and the time has come when we must be ever alert and the ophthalmologist, the rhinologist, the otologist, the laryngologist, the bacteriologist, the Roentgenologist, the dentist, the surgeon and the physician must co-operate as never before with an eye single to the importance of the greatest good for the whole patient.

Dentists should perfect themselves in methods of detecting and treating septic foci. We have abundant evidence that they are often present within the mouth, when they cannot be detected by any of the ordinary dental methods, and in these cases the last word is said by the Roentgenologist, whose assistance should be more frequently sought. Until recently the dentist has regarded the integrity of the tooth the *sine qua non*, and it is still desirable to conserve the teeth whenever and wherever it is possible to do so, provided always that the

source of infection in or about them can be removed. In the robust and healthy a small amount of infection, or oral sepsis, may, by the natural resistive forces of the body, be held in check, but there is a potential danger, which must be reckoned with, and it would seem a matter of plain common sense to apply the same reasoning to the matter of treatment of oral sepsis that we would to the treatment of sepsis elsewhere, for instance, if involving the gall bladder, the appendix, or the tonsil, and that is remove it absolutely—by treatment of the teeth and gums, if possible, and if that is not effective, by extraction.

The physical condition of the host should always be considered, and just as the physician should refer the patient to the dentist for adequate oral treatment, the dentist, when treating a patient, whose natural defenses need building up, should send that patient to the physician for this purpose.

Capped, loose, dead, or teeth containing large fillings, or connected with bridges, should be watched closely for evidences of infection. Just as we have learned that a tonsil may appear normal and yet be septic, so even the expert may be deceived as to a septic tooth. Of course, we know that the removal of a septic tooth will not always clear up; for instance, a septic arthritis, even when the septic tooth actually produced the arthritis, as the damage is often already done, and the joints in question are regular nests of infection, but amelioration of the symptoms, and often a cure, follows the removal of the septic foci, whose continued presence would be a menace to other joints and structures of the body.

A word about children's teeth: We know the value of the conservation of these teeth only too well; we have learned the sad lesson of the danger of caries of the deciduous teeth, but so few dentists will do any considerable work on the teeth of the little fellows. Many of them tell the parents that the children will soon lose the temporary teeth, and that it is hardly worth while to spend their money to have them kept in repair. Of course, the dentist realizes that if they are not saved the permanent teeth may be crooked, but they might be so any way and so it goes. When the dentist really does any work on children's teeth, he usually puts in a few small fillings and tells the mother that the others do not need filling, as they have not ached. I realize that such work requires a great deal of tact and patience and that the remuneration is often inadequate, but the need is certainly most urgent.

Another problem is the teeth of those who cannot pay for their repair and this class is a huge one. We treat these systemic diseases as best we can, and when we trace them back to a septic focus in the mouth, "we have the coon up the tree," but no way to get to him. From statistics it would seem, however, that in this case "God tempers the wind to the shorn lamb," for it certainly seems to be true that systemic disease results very much less frequently from oral sepsis in the very poor than in the well-to-do and the rich, and the reason doubtless is that when the teeth of the very poor ache they know only one remedy and that is extraction, which they usually have done soon after the onset of pain, and also the rougher, coarser class of their food tends to keep the teeth and gums in a more healthful condition.

The negro, with his appalling death rate, almost everywhere twice that of the white rate, and in some sections even exceeding the birth rate, is causing no little anxiety to health boards, medical societies, etc. What about his teeth? Here is a virgin field for capable dentists. About all the work they get on their teeth, aside from that done by quacks, usually of their own race, is extraction, and, aside from the two great enemies of that race, syphilis and tuberculosis, which are practically decimating it in this country, their dental needs are most urgent.

I believe that the day has come for a great awakening of the people of this country as to the importance of their teeth, and I hope that some of the great research agencies may furnish the men and the money for an intensive study of the subject of dental caries, pyorrhea alveolaris, and allied diseases, and that the day may soon come when the supply of dentists will be adequate for the work, and the people educated to the importance of having the necessary treatment, and some provision made to enable those who cannot afford it, to have the necessary attention.

In the meantime, let us consult more frequently with our dental confreres. Let us study these great problems together. We can learn much from them, and they can be of inestimable service to us, and many of the cures for which

we will get the credit, will really be made by the dentists. We need to understand each other better. We are brethren in a great work, co-workers in a fruitful field, and united we stand.

REFERENCES.

McCleave, *Jour. A. M. A.*, July 29, 1916; Durand, *Idem*, August 19, 1916; Morehead, Billings and Irons, *Idem*, September 16, 1916; Editorial, *N. Y. Med. Jour.*, April 15, 1916; H. Freudenburg, *Lancet-Clinic*, March 11, 1916; Daland, *N. Y. Med. Jour.*, June 17, 1916; Ferris, *Idem*, November 4, 1916; Tousey, *Idem*, December 30, 1916; Anders, *Idem*, March 10, 1917; Tousey, *Idem*, March 17, 1917, etc.

THE RELATION OF LEGISLATIVE ACTS TO THE PROBLEM OF DRUG ADDICTION.*

By ALFRED GORDON, M. D., Philadelphia, Penn.

The creation of the new law concerning the abuse of narcotic drugs, and known under the name of the Harrison Narcotic Law, had undoubtedly for its object a useful and humanitarian aim. The legislators unquestionably, were prompted primarily and chiefly by motives of the highest order. But all legislative acts, being formulated by an individual or collective human mind, are apt to present some weak and ineffective features alongside the most powerful ones. Only further experience with a widespread application of a new law will enable one to ascertain its practicability or impracticability. This will be particularly observed when a legislative act is concerned with a matter of medical or other biological principles. The well meaning congressional men can see in their well-meaning judgment only the purely utilitarian side of a certain medical question, otherwise speaking the purely material phase of it. When, however, biological principles and principles of a psychological order are to be considered, legislative acts are frequently found to be inapplicable and inadequate, because of the failure on the part of legislators to consider the psychic operations of an individual, besides the purely vegetative functions. This remark finds its direct illustration in the creation of the Harrison law. No doubt the principle underlying the new law is excellent and most commendable. There is no doubt that it aimed essentially to arrest an indiscriminate use or rather abuse of narcotics and thus to prevent the physical, moral and intellectual ravages which the narcotics are apt to, and actually do, produce in the individual and community. But after the few years of experience with the action of this law, can any one say that the desired results have been obtained, and, I raise the question, can they be obtained? Is it possible by any law to arrest a craving which is within the individual but which by the nature of its morbidity is not dependable on extraneous factors? Can a pathological psychology which had created a pathological vegetative life be remedied by a forceful privation of a remedial agent which became a physiological necessity to this morbid life? Have the authors of the Harrison law considered the untold suffering inflicted on the victims of the disease called "Morphinism" by withdrawing from them suddenly the drug? Have they considered the host of torturing manifestations leading to syncope and even to death from "abstinence" from the narcotics after the latter have been used by the individual for some time? Has the new law provided for the great army of sufferers which are left on our hands because of their helplessness created by the new situation?

There is no doubt that Congress has no power to legislate directly for the purpose of safeguarding the health and morals of the public; nevertheless, the Harrison law, as I understand, had primarily in view those very same principles besides the question of a revenue measure. As to the latter, the law had to be drawn as a revenue measure in order that it might be constitutional and enforceable by the courts. But so far, has it accomplished its primary purpose? Has it actually placed in the power of the country a prophylactic measure to prevent moral and intellectual degeneration which indeed should be its chief aim?

In order to demonstrate sufficiently the relationship of legislative acts to the great problem of drug addiction, let us briefly review the actual mental and physical condition of those unfortunate morphinists and cocainists. We will then readily see that laws, no matter how well intended they may be, are, to say the least, not the adequate means to solve a problem whose essential features are intimately associated with and dependent upon psychological complexes of the individual.

From a study of 171 cases of morphinomania and cocainomania, especially undertaken from a neurologic and psychiatric standpoint, the following observations could be made. Among

*Address delivered before the Medico-Legal Society of New York, February 21, 1917.

the somatic manifestations the following could be mentioned: Pronounced disturbances of digestion, such as nausea, vomiting, loss of appetite, constipation, alternating with diarrhoea; caries of the teeth, falling out of the hair. They all lead to disturbances of nutrition, and emaciation may reach an extreme degree. Arterial tension is below normal; the heart action is enfeebled; respiration is disturbed, dyspnoea is marked. Albuminuria is present and it is possibly due to a special action of morphine on the medulla (Levinstein). Sterility in women is frequent, but if pregnancy takes place, premature birth or miscarriage is frequent. The eyes show anemia of the retina. Disturbances of the general sensibility are often marked: paresthesias and neuralgic pains are common; hyperesthesia is most frequent and especially characteristic in the feet; tactile sensibility is frequently abolished.

The most disastrous manifestations are observed in the domain of the psychic sphere. Memory is one of the faculties first involved. Amnesia for recent events is striking. It resembles the amnesia of the paretic or of the senile dement. The mental energy is weakened. The aptitude for work is lessened. There is apathy in the patient's thoughts and acts. The moral sense suffers profoundly. The patient loses the sense of obligation to his family, he loses all affections for his children, becomes egotistic. The will power is decidedly deficient. One of my patients, a married woman, frequented a disreputable house, not for sexual reasons, but for the purpose of procuring money for morphin. Another woman became a cleptomaniac for the same reason. Not infrequently these individuals commit excesses of all sorts and even crimes. Deception and lying are common. Sleep is very frequently disturbed. Hallucinations are frequent and those of sight are always terrifying. Hallucinations of vision are most frequent, next in order of frequency are those of hearing. In sixty patients of my series, some of the morbid mental phenomena were characteristic of some of the classical psychoses. Systematized or unsystematized delusions, mostly of the persecutory type, also those of the expansive type, incoherence, confusion, agitation, depression—were all present. In the cases in which delusions and hallucinations were absent, dementia was a prominent feature. Here there was a childishness in actions, words and demeanor. When spoken to, the patient looks up astonished; if an answer follows, it has either no relation to the questions asked or it will be considerably delayed. The dementia develops very insidiously and increases with years until a complete decrepitude is established. It is the threatening progressive quantitative diminution of mental power that presents the alarming problem for us when we are called upon to counsel and render assistance to the community.

In connection with the main subject of my thesis, it will be entirely àpropos to say a few words on the morbid manifestations of abstention. Twenty-six of morphin and five of the cocain habituès were kept under observation while the drugs were entirely and suddenly withdrawn. The following symptoms were noticed: Both categories of patients presented a picture of extreme suffering; they were restless, full of anxiety, agitated and incapable of listening to others, of reasoning or of reflecting. Delirium and hallucinations were present. Some patients would be taken suddenly with chills, accompanied by twitchings. Others showed a tendency to faint. Insomnia was common and persistent. Some had morbid impulses with a desire to attack. The physical condition of the majority of my patients became quite alarming.

This brief account of the physical and intellectual disintegration in the drug habituès is sufficient to emphasize the disastrous effect of the drugs which constitute a genuine menace to society. In attempting to remedy the growing menace it should be borne in mind that a longing and craving for the drugs develop after a more or less prolonged period of use. Interference at the proper time, therefore, may be of great utility in certain cases. Legislative acts which have for object to prevent in the proper time the propagation of this most pernicious habit are most praiseworthy and to be encouraged. A law limiting the prescribing physician to a certain dose of the drug or to a certain number of renewals will be useful, provided it does not interfere with the administration of the drug in cases in which human suffering is intense. A law that will impose a heavy penalty with imprisonment on those who sell or give away the drug without regular prescriptions or on those who forge a physician's prescription—is laudable. This is as far as legislative prophylaxis can go. It may

by material force interfere with partaking of the drug by individuals, who are but in developmental period of the pernicious habit. Can it actually arrest the development of the latter? After a few years of continuous enactment, did the Harrison law succeed fully in this particular respect? I fear it did not. This is the experience of every close observer.

But besides a legislative prophylaxis there is a medical prophylaxis whose aim is by far more important and more effectual than the first one. Its object is to investigate the physiological and especially the psychological factors which are at the very foundation of habit acquirements. It delves into the conscious and particularly the sub-conscious world of the individual to discover and bring to the surface those repressed wishes and thoughts which, as we know now, are constantly at work, and which are capable to direct or disorient our acts during our entire life; which, briefly speaking, govern our conduct. Is it possible that any legislative act and even the best one will have the power to render any assistance in this endeavor? Morphinism usually occurs in individuals with a special make-up of their nervous system. Such persons present deficiency of the intellectual and moral faculties. In them the inhibitory power becomes an easy prey for all abnormal tendencies, particularly for alcoholism, morphinism or cocainism. The latter are the result of a neuropathic constitution, the fruit of hereditary tendencies. In handling such individuals one should remember Ball's dictum, to-wit: "Morphinomania is entered by the door of pain, of sexual passion, of sorrow, but also by the door of contagion, viz., imitation."

It is therefore evident that any law established as a revenue measure or as a matter of a policy, cannot by its very nature, pretend to modify in the least degree the foundation upon which the drug addicts' psychological processes have grown and developed. It would be futile and utterly absurd to foster such expectations. A legal regulation in matters of this sort is naturally narrow in its aims and application. It can attack only the superficial side of the problem. Speaking particularly of the Harrison Narcotic Law, there cannot be any doubt as to its usefulness, despite the many inconveniences it has created, but its usefulness does not extend beyond the limitations outlined above. It cannot aspire to remedy conditions which are out of its control. As it stands, it possesses several provisions which have been misconstrued and which therefore led to misunderstandings and abuse. The time has arrived, I believe, when a revision of the law would be useful and for this a commission of competent medical men should be appointed to analyze each paragraph of the new law, especially those features of it which have been differently interpreted, as one may judge from contradictory decisions of various courts. Alcoholism, morphinism, cocainism are deeply rooted individual and social evils, nay, calamities. No effort should be spared to attack them from every possible angle. Laws, regulations should be frequently revised and corrected in accordance with the deficiences discovered in their practical applications. The menace is growing and spreading to all classes of societies. Medical science will continue its investigations into the underlying causes of these diseases and render its valuable assistance in formulating biological and therapeutic laws for an intelligent manipulation of the grave problem of drug addiction.

1812 *Spruce Street.*

A BRIEF REVIEW OF THE GRADUAL DEVELOPMENT OF SURGERY.*

By MARTIN DONOHUE DELANEY, A. M., M. D.,
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Early in June of this year of our Lord, 1916, I had the honor to read a paper on "First Aid" at a meeting in Chattanooga, Tennessee, of the Association of Surgeons of the Southern Railway Company, at which time the Life and Works of Ambrose Pare were ably presented by others. In the discussion which followed this most interesting symposium, one of our fraternity stated that he was surprised that no one present had made any allusion to Ambrose Pare, who, as he expressed it, had been "*the first* to apply ligatures to bleeding vessels." Now, as we all know, Ambrose Pare was the Founder of Scientific Surgery in France and was celebrated in the annals of that country for his treatment of gun-shot wounds and the application of ligatures to bleeding vessels. As an incident in his career it is told that he one day appeared before Francis I., his King, with a bunch of strings

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in one hand and a cautery iron in the other, to illustrate the abolition of the cautery and pitch method then in use.

Although I felt confident at the time of the above mentioned discussion that Ambrose Pare was not *the first* to apply ligatures, yet, as I could not at the moment recall the exact period in which Celsus lived, I did not challenge the assertion. But, when I returned home and consulted history, I felt very grateful to my worthy brother for leading me into a research which I have found highly instructive.

Upon investigation, we must surely yield the palm to Celsus as being *the first* to use ligatures and acknowledge that Pare was only his brilliant disciple, for Celsus lived and moved and had his being in the first half of the first century A. D., whilst Pare first saw the light of day in 1517 A. D.

And here let me say that this free discussion is one of the delightful features of our fraternity meetings. It brings us in closer touch with each other and stimulates a common desire to know all that can be known upon any particular subject. It was the discussion concerning Ambrose Pare at Chattanooga, June, 1916, which has been in some measure responsible for the writing of the following pages. Hence, I have sought to arrange the data contained in this paper in an acceptable form and I herewith present it for your consideration. May it prove a ready reference to others when seeking information on the absorbing subject of Surgery.

In the beginning, in the earliest recorded history of this globe, when the fiat went forth upon a slumbering world, "Let there be Light," the Earth awoke to life and beauty and the evening and morning were the first day.

And when all the wonders of Nature were called into existence, the teeming Earth, a Garden of Hope, the Sun to rule by day and the Moon and the Stars to rule by night, then as the crowning work of Creation, "the Lord God formed man of the dust of the ground and breathed into his nostrils the breath of life and man became a living soul," even in that hour did the noble art of Surgery become man's partner in all of the vicissitudes of human life. It is coeval with man's existence and co-partner in his mental and physical development. In fact, the starting point in surgery was after the creation of the first sentient being; "the Lord God caused a deep sleep to fall upon Adam and he slept and He took one of his ribs and closed up the flesh instead thereof."

So surgery began with the dawn of creation and the first great operation was performed upon the Founder of the human race. What other craft can boast so hoary an antiquity or one so deeply interwoven with man's history!

But, turning from the corporeal to the spiritual, we find that this same human body was made to be the temple of the Holy Ghost. For, the great St. Paul tells us, "Ye are indeed the temple of the living God." What a heritage for fallen man and how reverently should we consider and treat this tabernacle of so holy a treasure. Surgery touches the *infinite* as well as the *finite*, which is a solemn thought. Advancing to the consideration of this complex question, we find with the growth of knowledge through the centuries that experience has laid down certain laws relative to the practice of surgery and has divided that practice into several general heads. Among these are: radical, conservative, clinical, plastic, etc., surgery. No branch of this subject appeals more strongly to our sympathies than conservative surgery. This means restoration, preservation, rehabilitation, conservation and all the joy and relief which modern surgery can afford. It means constant study and daily practice to understand the requirements of this wonderful art— this remedial agent of the Maker of mankind.

From the very remotest period of time in which wounds were inflicted by any means whatsoever, surgery became of necessity the first thought. In Egypt are found, covered with the rust of time, notices of this art as represented on the obelisk and in the temple; they practiced incisions, scarifications and probably amputations long before the date of Eber's papyrus (3520 B. C.) Preserved in a museum may be seen the surgical instruments of the remotest Egyptian epoch, namely lancets, tweezers, catheters, uterine specula and iron rods for actual cautery; also instruments for cataract operations.

The surgical law of Moses describing the operation of circumcision was an importation from the Egyptians, as was also the Caesarean section. The embalming of Joseph was an in-

dication of the knowledge of surgery at that time and of its application to the human body after death, viz.: "And they embalmed him and he was put in a coffin in Egypt."

Going back a little farther, (may I be pardoned for this digression), we find in reading of the Patriarchs two of the most striking scenes in the Old Testament Scriptures, the one touching the purchase by Abraham of a burial-place for his dead and the other the burial of Jacob by Joseph in the same spot. When Abraham was called to part from Sarah, his wife, she who in youth had been "very fair," he bought the field of Ephron the Hittite, in the land of Canaan.

"And the field of Ephron, which was in Machpelah, which was before Mamre, the field and the cave which was therein and all the trees that were in the field, that were in all the borders round about, were made sure unto Abraham for a possession," etc. (Gen. 23: 17.) And here he buried Sarah. The picture of the Patriarch making this purchase in the presence of the children of Heth, in a land where he was a stranger and a sojourner, is singularly appealing to the deepest feelings of our nature and for poetic interest cannot be surpassed.

The second scene of which I speak is to be found in the Book of Genesis, chapter 49: 28-33, and chapter 50: 1-13:

Chapter 49. "28. All these are the twelve tribes of Israel: and this is it that their father spake unto them, and blessed them; every one according to his blessing he blessed them.

"29. And he charged them, and said unto them, I am to be gathered unto my people: bury me with my fathers in the cave that is in the field of Ephron the Hittite.

"30. In the cave that is in the field of Machpelah, which is before Mamre, in the land of Canaan, which Abraham bought with the field of Ephron the Hittite for a possession of a burying-place.

"31. There they buried Abraham and Sarah his wife; there they buried Isaac and Rebekah his wife; and there I buried Leah.

"32. The purchase of the field and of the cave that is therein was from the children of Heth.

"33. And when Jacob had made an end of commanding his sons, he gathered up his feet into the bed, and yielded up the ghost, and was gathered unto his people."

Chap. 50. "1. And Joseph fell upon his father's face, and wept upon him, and kissed him.

"2. And Joseph commanded his servants the physicians to embalm his father: and the physicians embalmed Israel.

"3. And forty days were fulfilled for him; for so are fulfilled the days of those which are embalmed; and the Egyptians mourned for him three-score and ten days.

"4. And when the days of his mourning were past, Joseph spake unto the house of Pharaoh, saying, If now I have found grace in your eyes, speak, I pray you, in the ears of Pharaoh, saying,

"5. My father made me swear, saying, Lo, I die; in my grave which I have digged for me in the land of Canaan, there shalt thou bury me. Now therefore let me go up, I pray thee, and bury my father, and I will come again.

"6. And Praraoh said, Go up, and bury thy father, according as he made thee swear.

"7. And Joseph went up to bury his father: and with him went up all the servants of Pharaoh, the elders of his house, and all the elders of the land of Egypt.

"8. And all the house of Joseph, and his brethren, and his father's house: only their little ones, and their flocks, and their herds, they left in the land of Goshen.

"9. And there went up with him both chariots and horsemen: and it was a very great company.

"10. And they came to the threshing-floor of Atad, which is beyond Jordan; and there they mourned with a great and very sore lamentation: and he made a mourning for his father seven days.

"11. And when the inhabitants of the land, the Canaanites, saw the mourning in the floor of Atad, they said, This is a grievous mourning to the Egyptians: wherefore the name of it was called Abel-mizraim, which is beyond Jordan.

"12. And his sons did unto him according as he commanded them:

"13. For his sons carried him into the land of Canaan, and buried him in the cave of the field of Machpelah, which Abraham bought

with the field for a possession of a burying-place of Ephron the Hittite, before Mamre."

This dramatic occasion was made possible by a resort to means which will appeal at this hour to the surgical sense of this meeting. It was by embalming, an art created by the surgeon's skill, that this remarkable burial took place.

But to return to our picture.

The long procession following the venerable Jacob from the land of Goshen up to the hill-country of beautiful Canaan falls upon our eye: we see a weeping multitude taking him to his eternal rest. Amidst the lamentations of children and grandchildren and all the elders of the land of Egypt, with horses and chariots, a very great company, journeying many days, a scene stretches out, which makes the cave of Machpelah linger in our memories.

This is only a simple illustration of the part played in human affairs by surgery even in the hoary past. How much greater then must be its influences in this age of intellectual triumph when there seems to be no limit to the powers of the human mind. Matter yields its hidden secrets and we can almost exclaim with the ancients: "The gods are come down to us in the likeness of men."—Acts 14: 11.

We find surgery occupying a high place among the Indians in very remote times. "A physician who is no surgeon is like a bird with but one wing," expressed their sentiments. Instruments made of steel to the number of one hundred and twenty-seven attest their proficiency in cutting and canterizing.

The earliest genius directly spoken of in connection with the craft is—

Chiron, the Centaur, supposed to have been born in Thessaly at some unknown period. He was the preceptor of Hercules, of Achilles, and others, and belonged to the fabulous race of Centaurs.

Aesculapius, the son of Apollo, (who was the son of Jupiter) B. C. 1142. is believed to have been a pupil of Chiron. He was the best physician of antiquity, and he prolonged the lives of so many mortals that Pluto complained to Jupiter that Aesculapius prevented his dominions from being peopled; therefore, Jupiter struck Aesculapius with lightning and killed him.

Podalarius and Machaon were described by Homer in his account of the Trojan War as sons of Aesculapius and as surgeons in this war, 1184 B. C. Podalarius was reported to have been the first bleeder and as a recompense for having bled the daughter of Caria received her hand in marriage.

The Aesclepeades, descendants of Aesculapius, are the only surgeons referred to during the following five hundred years.

Pythagoras, the famous Greek philosopher, born in Samos, 582 B. C., exercised a lasting influence in surgery.

Damocedes, a contemporary of Pythagoras, treated King Darius for a sprained ankle and his Queen Attossa for cancer of the breast.

Hippocrates, a famous Greek physician, was born on the island of Cos, 460 B. C., and was called the father of medicine. He performed many operations now often claimed as modern inventions. He employed actual cautery of various shapes, used moxa, made rolls of flax, resorted to issues and tents as counter-irritants and operated for calculi in the kidney by incision; he did not cut for stones; lithotomy being confined to special practitioners. He reduced dislocations and fractures by means yet resorted to, used forceps successfully in obstetrics, frequently employed the trepan in depressed fractures of the skull, resorted to percussion to prove the presence or absence of fluid in the thorax and performed the operation for empyema, or paracentesis thoracis. His pupils took the Hippocratic oath. Of the eighty-seven writings, forming the so-called Hippocratic collection, many were doubtless by other writers.

Diocles Carystius, an eminent Greek physician of the fourth century B. C., succeeded Hippocrates and invented an instrument for removing darts, bandaged the head for wounds by bandages employed at the present time. He was followed by—

Praxagoras, a Greek physician of Cos, who lived about three hundred years B. C., and who seems to have been the first who recognized the difference between arteries and veins. He was an accomplished surgeon and some of his operations are yet resorted to. He incised the fauces in inflammation, excised the uvula and made an artificial anus in obstruction or ileus. He was succeeded by—

Aristotle, who gave the name to the aorta

and showed that all blood vessels centered in the heart. Next we find mention of—

Herophilius, a Greek physician and profound anatomist of Alexandria, born about 344 B. C. He was reported to have been the first physician to have practiced dissection. His contemporary,—

Erasistratus, also dissected and invented many surgical instruments. His follower,—

Xenophon, was the first to arrest hemorrhage from the extremities by a tourniquet.

Ammonius, who lived in the third century B. C., invented instruments for breaking up stones in the bladder and is surnamed Lithotomist.

Cassius, B. C. 96, showed considerable knowledge of physiology of the brain, having described paralysis on one side of the body as induced by injuries on the opposite portion of the head. In Roman surgery—

M. Porcius Cato (234-149 B. C.) was regarded as a shrewd amateur. He left some handy rules for the treatment of fractures, ulcers, nasal polypi, fistula and stranguary, having gained his experience as a slave-owning patrician.

Archagathus, a Greek surgeon who migrated to Rome B. C. 219, was known for his skillful handling of dislocations and fractures, the Senate providing him with a Taberna, but when he started to use the knife he was known as the "Carnifex."

Galen, while an accomlished surgeon, did not add anything new.

St. Luke, 20 A. D., by tradition, author of the third Gospel, also of the Acts of the Apostles; called by St. Paul "The beloved physician." He was said also to have been a painter as well as a physician. It is not known whether he suffered martyrdom or not.

Celsus, a contemorary of Horace, Virgil and Ovid, the patrician dilettante in medicine and surgery, lived in Rome about 24 A. D. He wrote eight books, the last two treating of surgery. He described lithotomy and his mode of performing it by central incision; the removal of cataract by central depression; mentions the subject of artificial pupil; gave accurate and judicial rules for the application of the trepan; was the first to notice that there might be an effusion and compression within the head without fracture; first recommended the application of ligatures to wounded arteries; improved the operation of amputation; describes several species of hernia, and operated for harelip by methods yet in use and claimed to be modern improvements.

Arataeus, A. D. 54, employed blisters.

Rufus, the Ephesian, A. D. 98, wrote on diseases of the kidney and bladder and operated by ligating the brachial artery for varicose aneurism at the bend of the arm.

Heliodorus, the physician to Trajan, about 120 A. D., and contemporary of Juvenal, wrote on injuries of the head.

Antyllus, in the third century A. D., recommended tracheotomy. He practiced arteriotomy; in aneurism he ligated above and below the sac. He alluded to the operation of cataract by extraction and makes mention of the surgical cure of goiter.

Archigenes, after Celsus, describes amputations, hemorrhage being obviated by a ligature of the vessel or obstruction of the limb.

Heliodorus and Leonides performed flap amputations and resection of the humerus and lower jaw, and proved the high degree of development that surgery had reached. During the reign of Maurice, 582-602 A. D., the cavalry had an *ambulance* company.

Claudius Galen, A. D. 130, wrote on backward dislocations of the femur, trepanned sternum in empyema.

Aetius, a Greek surgeon about 475 A. D., scarified the legs in anasarca, wrote on hernia, was the author of sixteen medical books.

Alexander of Trallis, a Greek medical writer of Lydia, A. D. 25, practiced in Rome at the time of Justinian and wrote on fractures.

Paulus Aegineta, practiced in Alexandria in the first half of the seventh century, restricted the operation for tracheotomy to cases of choking when the deeper air passages were free (tracheotomy having been performed by Asclepiades); he opened abscesses with caustics; he defined the points of paracentesis abdominis; extirpated the breast by central incision; performed the operation for strangulated hernia, and was the first to treat fracture of the patella; he was a celebrated obstetrician.

Leonides, 200 A. D., removed the cervical glands and operated for fistula and hemorrhoids.

Caliph Haroun of Arabia had as many as 6,000 students at Bagdad, 790 A. D.

Rhazes, 924 A. D., first described spina ventosa and spina bifida.

Haly Abbas tapped for ascites A. D. 980.

Avicenna, the most celebrated of the Arabian surgeons, 980-1037 A. D., preferred depression to extraction of cataract; first resorted to flexible catheter and used a saw similar to that named after Hey.

Albuscasis, 1100 A. D., first noticed the effect of a clot in the arteries in arresting hemorrhage, and he excised the tonsils and uvula; invented the probang; employed sutures in wounds of the intestines. There was a stationary period from 1100 to 1160 A. D., when—

Guy De Chauliac first described Caesarean section.

Albuscasis, in 1302 A. D., described syphilis.

Vesalius taught anatomy in 1550.

Eustachius, in 1560, followed in the footsteps of Vesalius.

Ambrose Pare, in 1560, wrote on gunshot wounds; employed ligatures more than cautery, and resorted to twisted suture in harelip.

Paracelsus at this time made his eccentric genius felt.

Fabricius ab Aquapendente, 1610 A. D., the preceptor of Harvey, invented the modern trephine, also the curved canula used after tracheotomy.

Wiseman, in 1676 A. D., wrote seven chirugical treatises.

Desault, in 1730 A. D., first taught surgical anatomy.

Petit, 1740 A. D., invented the screw tourniquet.

Cheselden and Pott were famous in England in the eighteenth century.

James Douglas, the three Monroes, Benjamin Bell and above all,—

John Hunter, were distinguished in Scotland.

Abraham Colles was noted in Ireland in 1773-1843 A. D.

And here it may not be out of taste to say that practitioners of the Healing Art in Ireland today are the legitimate heirs of what may be termed the oldest professional culture of which there is record in the living language of any European nation. Such names as Capa, Eaba, Slanga and Fergua have come down to us as the earliest Celtic physicians and surgeons.

About the eighth century there was written a treatise upon Celtic anatomy called: "Na Arrada," which is very celebrated and all this knowledge existed when the Druid priests held sway in Erin. Diancecht was regarded as the Celtic Aesculapius. He had great skill as an army surgeon and was a Druid of profound knowledge. But that he did not reverence the laws of God is shown by the fact that he slew his own son, because of the superior knowledge possessed by that son called "Miach."

But we must not forget St. Patrick and the Shamrock, both supposed to possess great remedial powers, the one as a Priest and the other as a Herb. In preaching one day of the Trinity, St. Patrick found it difficult to make the doctrine clear until, spying a tiny three-leafed shamrock in the turf at his feet, he explained that as there were three distinct leaflets composing the leaf, so there were three distinct persons composing the Trinity. Ever since the shamrock has been the national emblem of Ireland and for centuries has been worn by Irishmen the world over on March 17, the anniversary of St. Patrick.

The world owes a debt to Ireland outside of medicine and surgery; a debt for the gift of such a poet as Thomas Moore, for the inspiration of such a patriot as Robert Emmett, and for the heroic example of Irish soldiers whose bones, it is said, have whitened the plains of many battlefields upon this globe.

Prussia was far behind at this time and Austria only in 1780 adopted means for training surgeons. In this country—

Dr. Shippen, of Philadelphia, laid the foundation for future proficiency in this important matter. Following these periods the history of surgery should be well known.

Although the above details may savor somewhat of the book-shelf, yet it is an ennobling thing to contemplate the triumphs of the past, even as in personal matters we rejoice in a worthy ancestry. Our *Lares et Penates* abide with us always.

Glancing backwards over the more recent past, we behold a new heaven and a new earth stretching out and hitherto unseen constellations which are to guide the future surgeon.

Time fails us to make full record of these luminaries. Such brilliant men as McDowell, Deaderick, Barton, Warren, Sims, Smith, Morton, Gross, Peaslee, Bright, Dudley, McBurney, Hunter McGuire, have made surgery a veritable eldorado whose best rewards are not the perishable things of time, such as gold and silver and precious stones, but whose recompense lifts to a higher plane, through the grateful hearts of patients "made whole" and the benedictions of an admiring world. An amaranthine wreath which never fades is the prize.

In concluding this brief paper upon the gradual development of the art of surgery, whose progress has been like the stars, "unhasting yet unresting," our purpose would be incomplete without a tribute to the great American surgeon of this day who has recently passed from our midst and left the world the poorer for his passing. A little more than a year ago it was my privilege to visit the Clinic of Dr. Murphy in Chicago and sitting at his feet to learn the spell of his presence in the operating room and to feel the inspiration of his wonderful technique.

Dr. John Benjamin Murphy of Chicago was born in Appleton, Wis., December 21, 1857, and died at Mackinac Island, Michigan, August 11, 1916. He was reared on a farm and, after attending preliminary schools, was graduated from Rush Medical College in 1879. Later he went to Europe where he studied two years. In reading of the positions of honor and usefulness which he held, we find a recital of the varied calls upon his talents and learning, no man in America ever having attained greater prominence at home or in Europe in the study and practice of surgery. His contributions to the literature of surgery were many and valuable and honors were heaped upon him in the new and the old world. His last medal was from Pope Benedict XV., in June of this year, when he was made a Knight Commander of the Order of St. Gregory the Great.

To know all this and yet to see him die at the age of 58 seems a strange decree of Providence, but his illuminating history is given to stimulate industry, patience, ambition and consecration in the lives of those he has left behind.

May we "faint yet pursuing" follow his example!

"O Murphy, great! the man! the brother!
And art thou gone, and gone forever?
And hast thou crossed that unknown river,
Life's dreary bound?
Like thee, where shall we find another,
The world around?"

BIBLIOGRAPHY.

Haser.
Puschmann.
Dictionary of Antiquities, by Smith.
Richerand.
Chelius.
Wise.

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POSTERIOR LOBE OF THE PITUITARY BODY AND ITS USE IN OBSTETRICS.*

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Medical treatment by means of preparations derived from various organs of animals forms a subject of intense interest. We now find animal therapy more thoroughly established than ever before in present day treatment by the advanced medical men of the country. While many of the theories advanced as to the therapeutic value of some of these agents are yet uncertain, many of them have been thoroughly established by the very large weight of evidence in clinical results. Although the future of this class of agents is promising, it will require no little time and mass of clinical reports to prove or disprove the many theories that have already been advanced. One of the most recent subjects of investigation is the extract of the pituitary body. The history of the pituitary gland is very interesting and, if I am permitted, I will discuss it, briefly, with the following statements:

The pituitary body, or hypophysis cerebri, is a glandular structure lying at the base of the brain in the sella turcica. It consists of two lobes, a larger anterior and a smaller posterior, each histologically and embryologically distinct.

Microscopically, the anterior lobe consists of large granular cells and numerous blood vessels. While its exact function is not definitely known, it is thought that it produces an internal secretion which influences growth. The posterior lobe, which is connected with the floor of the third ventricle, contains no nerve cells, though it is developed from the brain.

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It is surrounded and invaded by epithelial cells, and, in virtue of these, acts as a brain gland.

The physiology of this gland is very imperfectly understood, but we know that its existence is necessary to life and that probably both the anterior lobe and the posterior lobe produce internal secretions. The anterior lobe has to do with metabolism, while the posterior lobe gives forth an internal secretion which has a specific effect upon the uterus, upon the organs of circulation and upon the kidneys. It is very probable that this internal secretion is furnished by the epithelial cells (Howell). This little organ, snugly hidden away at the base of the brain, has long been, and still is, an enigma to science. Some of our early research workers concluded that it had no purpose other than a cushion or protection for the brain. It was thought by the ancients that this particular body secreted the mucus which flows from the nose, mucus being called "pituita;" but it is now known to have not that, but much more important functions. Modern science long since ceased to doubt that the pituitary body was of vital importance to the functions of certain other of the human organs, and it has been shown by experiments that there is a relationship between the thyroid gland and the pituitary body and a possible relation to the suprarenal glands. Just what their relationship is becomes a matter of considerable speculation. The fact that the organ is situated so remotely in the human anatomy, far from any field of observation, renders the possibility of human experiments almost impossible. Our knowledge is therefore based upon animal experimentation and such clinical observation as have been possible to make. The action of the extract of the posterior lobe of the pituitary body has recently been the object of the special attention of obstetricians. Following the discovery by Dale that the administration of an extract of the infundibular portion of the pituitary gland stimulated the uterine contractions, Hofbauer, in 1911, advocated its employment in uterine inertia. Since then considerable literature has accumulated upon the subject. The word "Pituitrin" identifies the pituitary extract manufactured by Parke, Davis & Company. It is an extract of the posterior or infundibular portion of the pituitary gland and is offered in a form ready for immediate hypodermatic injection in a half and one c. c. ampoules. There are other forms of identically the same preparation that are made by different firms, e. g., "The Pituitary Liquid" and "The Pituitary Extract." Pituitrin is used very largely in obstetrical work and occasionally in certain diseases, such as hay fever and asthma, but my purpose in presenting this paper is not to go into detail in regard to all of its therapeutic uses, but to confine myself solely to its use in obstetrics, especially so when there are positive indications for its administration and to facilitate the expulsion of the fetus.

A word or two may be said here in regard to the action on the blood pressure and also its effect on the uterus. Houghton and Merrill have shown that the elevation of the blood pressure produced by pituitrin sometimes lasts half an hour or even longer. Beck and O'Malley also investigated the action of pituitrin on the blood pressure and incidentally on the pulse. They found that this preparation increases the blood pressure and diminishes the pulse rate, the degree depending upon the dose of the extract and the susceptibility of the individual. The rise in blood pressure varies 8 to 38 m. m., while the pulse rate falls 4 to 17 beats per minute. They further state that the inhibitory influence upon the pulse is more lasting than the influence upon the blood pressure. In giving pituitrin, we should have a fair and working knowledge of its effect upon that sacred organ which envelops the entire fetus—namely, the uterus.

It has been shown that pituitrin has a stimulating effect upon the muscular fibers of the gravid uterus. It stimulates pains better during the end of pregnancy; it gives good and reliable results in the stage of dilatation, and acts still better in the stage of expulsion. If pituitrin is employed while labor is in progress, the initial effect is evidenced by a single or at the most, double tonic contractions of the uterus, which sometimes lasts several minutes (Hofbauer). This is soon followed by rhythmical contractions, which gradually increase in intensity and frequency (Hofbauer, Vogt and Ricter). The action of the pituitrin is not impaired by general anesthesia (Hofbauer and Meyer). It is well to remember that the fetus may be compared to a tenant who rents or leases a house: The fetus may be represented as the tenant who leases, so to speak, the sacred uterus for a period of nine

months, and after the expiration of that time it is supposed to vacate from its premises. Under certain conditions, however, this tenant cannot leave, as, for example, when its surrounding forces have become weakened, and then it becomes the important duty of the obstetrician to offer a helping hand. Knowing, then, its effect upon the uterus, the question arises, when are we justified in using it? The indications, then, may be divided into the following: (1) uterine inertia; (2) acceleration of labor; (3) in placenta previa after rupture of the membranes, version or dilatation; (4) in certain forms of face and breech presentations; (5) for institution of premature labor after dilatation of the cervix, and in post-partum hemorrhage.

As a pre-requisite for prompt action of pituitrin, the uterus must be in a state of sufficient sensitiveness, as is the case at the end of pregnancy, or when labor pains have already taken place, even though they are but feeble. The further labor has progressed when the first injection is made, the more intense is the action. Hofbauer asserts that in cases of primiparae of advanced age pituitrin is sometimes without effect. The significance of uterine inertia as a complication of labor is so universally recognized that it seems unnecessary that we should more than casually refer to it at this time. Disturbances and discomforts connected with a protracted labor, exhaustion, increased danger of infection and psychic depression of the mother, the possibility of asphyxiation of the child are all matters of no little consequence. The natural result of these factors is that a slowly progressing labor is frequently terminated by instrumental procedures in the absence of sufficient indications.

Under the head of acceleration of labor, we may mention the following condition: In the functional atony of the uterine muscular fibers due to over-distention of the uterus by twins and hydramnion, or to exhaustion from previous labors; in slightly contracted pelves, in albuminuria; on behalf of the mother—after intra-uterine interference (dilatation, or combined version); for a high temperature during labor; in threatened or established eclampsia; on behalf of the child—when the heart action is rapid and irregular and if there is a danger of intra-uterine asphyxia. Fries and Fischer recommend the injection of pituitrin before labor as a prophylactic of post-partum hemorrhage. This, however, is not a good plan to adopt. Schmid says that this preparation is superior to ergotin as regards the intensity of contractions and the duration of stimulation, and is particularly indicated in severe atonic hemorrhage, after ergot has been given without benefit.

To use pituitrin as a matter of convenience is unjust. The rapid termination of labor without any valid medical reason just simply to economize time, is a thing that ought not to be coupled with a true and conscientious obstetrician. If a case is progressing smoothly, trust to Nature and let it alone, but if indications arise, then we are justified in using the preparation. It has been shown by several observers that there are no unpleasant after-effects, but, on the other hand, there are a few desirable after-effects of pituitrin. There is no cumulative or toxic effect. Usually, we get a quick separation of the placenta in the last stage of labor, and on account of its tonic effect on the uterus there is usually complete absence of, or only slight secondary hemorrhage.

There are certain contra-indications regarding the use of pituitrin. The first and most important is—when there is no dilatation of the cervix or when the dilatation is very slight; cervical obstruction: when the pelvis is too narrow, and when there is a threatened rupture of the uterus. To give this powerful uterine stimulant in a case of impossible delivery, an unfavorable presentation, or a contracted pelvis, is to invite invariably a disaster. The fault, then, would not be one of drugs, but of ill-advised therapeutics on the part of an unskilled obstetrician. According to Jaschke, caution is indicated in chronic myocarditis and perhaps also in many forms of nephritis, while others do not regard these as contra-indications at all, since the blood pressure is only slightly raised by pituitrin, and further because its effect is of short duration. If pituitrin is to be used in placenta previa after rupture of the membranes, the following conditions are necessary in order to have a chance to succeed: the fetus should be in a longitudinal position; there should be no mechanical disproportion; the dilatation should at least be 5 c. m. in diameter, and the contractions should be energetic. As I have pointed out above, it is especially in the case where pregnancy is at term or at almost term,

where labor is sufficiently advanced, and where we have to do with secondary insufficiency of the uterine contractions, that we have the right to expect a good result from the employment of pituitrin. In placenta previa, as a rule, the labor has hardly commenced and only very weak contractions of the uterus are observed. When using the preparation of pituitrin, according to my judgment, it should be given in small doses, such as one-half c. c. at a time, and after twenty minutes, if no appreciable reaction takes place, repeat a similar injection. Its injection causes neither pain nor local reaction. The fact that it is now supplied in ampoules containing one-half the usual dose has the tendency to lessen its dangers, while at the same time its usefulness is not diminished. A point well to remember is the fact that this preparation begins to lose its effect after standing for some time, so, in order to obtain a more satisfactory result, the obstetrician should be on the alert as to the exact date printed on each package. After standing for 10 months it loses 10 per cent. of its strength; 12 months, 20 per cent., and 14 months, 50 per cent. In using the preparation, be sure you do not get the one used exclusively for surgical work, for the latter is a double strength product and may produce harm when used in obstetrics. Never give too large a dose—for fear of rupture of the uterus. It should be remembered that the uterus at the end of pregnancy is greatly stretched and ballooned out and, if too much stimulating force is put behind it, the chances for rupture of this organ are greatly increased.

The duration of labor after administration of pituitrin varies. Dr. Richard C. Norris, of Philadelphia, reports that in multiparae, when the drug proved efficient, delivery occurred with an average time of one hour and eight minutes; in primiparae three hours and eighteen minutes after the last dose. Other men give different figures. During my association (in 1914), with Dr. M. L. Anderson, of this city, and with my own experience, I have observed closely the action of pituitrin, and in the series of cases worked up, we found it took on the average of twenty-five minutes; the dose given with Dr. Anderson's cases was 1 c. c. It has not been followed by a greater proportion of lacerations than is usual without pituitrin.

To illustrate its use, it may be well to compare pituitrin with the obstetrical forceps. It may be said that there is a debit as well as a credit side, and it needs but little research to learn that the forceps have also been charged with much harm, so that in many minds even now the balance is doubtful concerning them. That the fault is not in the forceps, but in the users, is a well known fact. Forceps are not simply a pair of tongs to be applied, somehow, to the child, and pulled upon, somehow, until it is dragged out, but a carefully fashioned instrument, intended to be applied in a definite manner, according to the cases in which they are used. A similar comparison may be made of pituitrin in regard to its administrations in certain cases where the indications are positive. It is not a drug or a preparation to be used simply to stimulate uterine contraction and to aid expulsion of the fetus, but it has definite and well established indications to justify its use.

It is safe to keep the pituitrin in the obstetrical case and, when the storm arises, place the patient under shelter by first giving pituitrin in fractional doses if there are present the positive indications, and in so doing we assist the woman in a just and safe manner. In some cases, however, it becomes necessary to employ the forceps after pituitrin has been administered, due to the fact that in a small percentage of cases, certain patients do not react well to its effect.

304 *East Grace Street.*

Clinical Reports.

CASE OF SCIATICA OF LOW BACK ORIGIN.*

By JOHN DUNLOP, M. D., Washington, D. C.

On June 13th last, I saw Mr. F. S., age seventy, but a very young appearing man, complaining of a pain in the leg extending from the gluteal fold along the outer edge of the thigh, with an especially painful heel, which had been present without any great amount of change in severity since the latter part of December. Early in December, he had been in a hospital in Baltimore for prostatectomy. About two weeks after the operation, while still in the hospital, he had "influenza with tonsillitis," and before he left the hospital the pain in the leg appeared. Shortly after returning to Washington, the leg pain became so annoying

*Read before the Medical and Surgical Society of the District of Columbia, November, 1916.

that he sought medical advice and was treated for toxic sciatica. There was very little change at any time during the course of this treatment. Finally, he came to see me.

The history suggested a possible low back lesion, as I feel that many of the sciaticas are due to some trouble there. On having the patient strip, my attention was immediately called to exceedingly bad poise. He had rather a protuberant abdomen, his back was markedly flattened from the sacral region to the mid-dorsal spine, from which point there was a rounding forward position to the spine. The back appeared very tense throughout its entire length, and there was intense muscle spasm, which could not only be seen, but was felt to be quite rigid. There was a certain amount of tenderness along the course of the sciatic nerve and the branches extending to the external surface of the thigh. There was considerable lateral deviation of the spine to the left, beginning at the lumbo-sacral level. All attempts at motion were protected by muscle spasm so that motion was very much restricted, but in spite of this, he was quite active. There was a general sensation of tenderness about a large area, including the lumbo-sacral and sacro-iliac regions.

With the history of onset during the course of acute infection, I felt that it was most likely I was dealing with an infectious arthritis, although a strain had to be considered which might have come on during the course of recumbency following operation and during the active infection. An X-ray examination was made by Dr. Groover, which shows an acute lateral deviation of the spine at the lumbo-sacral region. The lumbo-sacral joints themselves appear normal; at least I can make out no abnormality. There is a slight suggestion of bone overgrowth or lipping of the vertebrae on the side towards the deviation, and there is also suggestion of a widening of the space between the sacrum and ilium on that side; that is, a suggestion of sacro-iliac separation. In going over the rays carefully, together with the clinical findings, I felt that it was possible that the strong muscle spasm might have been produced by the irritation of bone overgrowth, or a toxic condition of the spine which produced the lateral deviation and by its strong pull, which was as strong as any I have ever seen, may have lifted the sacrum up slightly from its bed on that side.

In addition to this, the transverse portion fits very closely towards the top of the sacrum and the crest of the ilium, and there is unquestionably a lumbo-sacral transverse joint at this point. This also plays an important part in the clinical findings, for, with the deviation and the close fitting down of the transverse portion on that side, it may have been the cause of the irritation of the nerve. In the stereoscopic view, it can be very nicely shown that the transverse portion on the opposite side lies well away from the ilium and top of the sacrum, seemingly so far that a finger could easily be slipped in at that point.

On my findings, I felt that fixation for the low spine and pelvic region should relieve the sciatica, especially if the position of the trunk in relation to the pelvis were somewhat changed. I placed the patient in the prone sagging position, with special reference to overcoming the muscle spasm and lateral deviation, and after the spasm had subsided, strapped the pelvis and as much of the spine as possible to accomplish as much fixation as could be gained.

On the return of the patient the next day, he reported that all of the pain had left with the exception of a slight burning sensation in the heel. I then arranged support, which took the place of the adhesive plaster dressing. Following the wearing of support, he gradually improved, until he practically felt no sensation July 10th, when he left the city. He went to the southwest and, after having been away about two weeks, wrote me that certain of his sensations had returned. This followed the change of the type of support as the first support I made, he felt, was too constricting. I wrote him at that time to go back to the original support, and since have not heard from him.

This case has been most instructive to me, because of many possible diagnoses, any one of which, I felt, might be responsible for the sciatica. I will name in order the possibilities of diagnosis as they seem to me most probable: First, sacro-iliac strain; second, sacro-iliac plus lumbo-sacral strain; third, infectious arthritis of the low spine with accompanying sacro-iliac and lumbo-sacral strain due to the muscle spasm.

1621 *Connecticut Avenue, N. W.*

SYPHILIS OF THE STOMACH—REPORT OF A CASE.*

By CARRINGTON WILLIAMS, M. D., Richmond, Va.

The literature of the past few years abounds in reports of syphilis of the stomach, but this case represents such a typical line of symptoms as to be almost an epitome of the articles on the subject.

History:—The patient is a white man, single, 36 years old, steam shovel engineer. He came to us on January 13, 1916. He complained of pain after eating, tumor in epigastrium, and loss of weight and strength. His mother died of consumption; family history otherwise negative. He had the usual diseases of childhood. and typhoid fever 15 years ago. No other illness of note prior to present trouble. He denied all venereal disease but several days later remembered a venereal chancre 20 years ago. He has always led an outdoor life and previous to two years ago been perfectly healthy. Until one year after the onset of this trouble he had used whiskey regularly and freely.

The duration of this illness is about two years, and began gradually with pain and epigastric distress after eating. The pain was sharp and came at intervals, always soon after eating but **at no regular time,** and often also at night and during fasting periods. This distress followed all varieties of food. Eating never relieves the pain, usually making it worse, but occasionally it is relieved by soda. He had no nausea but frequently vomited after eating; this was followed often by some relief of the pain.

He has been under treatment throughout his illness without relief, but kept at work until four months ago. At this time he had an attack of severe pain and was operated on with diagnosis of chronic appendicitis. A letter from his surgeon states that the appendix showed chronic inflammation. The gall bladder was palpated and found normal. His operative recovery was uneventful but his trouble became steadily worse.

He has lost 10 pounds in weight and is now unable to work. He thinks he has been able to feel a tumor in upper abdomen for about two months. He has never seen blood in vomitus or stools.

There were no symptoms of disturbance of locomotion or coordination, or of disease of the heart, lungs, or kidneys.

Physical Examination: The patient is a well developed and fairly well nourished man, not appearing acutely or severely ill. Conjunctivae have good color. Pupils react promptly to light and accommodation. Except for a number of bad teeth his mouth, throat, ears, and nose are negative.

Heart and lungs negative.

Abdomen showed scar of gridiron incision well healed. Moderate tenderness in epigastric angle but no mass or abdominal viscus was palpated.

Genitalia normal.

Extremities normal.

Knee jerks normal. Rhomberg negative, and coordination normal.

Lymph glands, small and firm, palpated in neck, epitrochlear, and groins.

After test meal the stomach was inflated. In dorsal position the lower border was 3.5 cm. below umbilicus. Pyloric gurgle was well marked and the stomach emptied rapidly without eructation.

Laboratory reports:

Urinalysis negative.

Blood count: Red blood cells 5,500,000.

Hemoglobin 95 per cent.

Leucocytes 9,000.

Polys 70 per cent.

Lymphocytes 26 per cent.

Large mononuclears 1 per cent.

Eosinophiles 2 per cent.

Basophiles 1 per cent.

Stomach contents one hour after Ewald meal and eight hours after eating raisins measured 120 cc. There was a marked odor of fermentation and there was a large quantity of thick tenacious mucus, but no trace of raisins. There was no blood.

Free HCl, 30.

Total acidity 50.

Microscopic examination negative.

Examination of stool negative for blood.

Wassermann on blood positive (+ + + +).

Lumbar puncture made one week after starting treatment showed clear fluid under normal pressure.

*Read before the Richmond Academy of Medicine and Surgery, February 13, 1917.

Cell count 6.

Wassermann doubtful (+—).

Nogouchi test for globulins (+).

After this lumbar puncture the patient had a very severe headache, dizziness, nausea and vomiting, but in a few days was normal again.

In making a diagnosis we can at once exclude two sources of stomach irritation, the appendix because it had been removed, and the gall bladder because it had been palpated four months before and found normal. Cancer was ruled out because of the good general condition of the patient and absence of blood in vomitus and stool. Peptic ulcer was very improbable because of the irregularity and character of the pain and absence of blood.

The possibility of cerebrospinal syphilis was made more suggestive by the doubtful Wassermann on the spinal fluid. However, I believe the absence of symptoms and signs of nervous involvement, and the subsequent prompt and continued improvement under treatment sufficiently exclude this possibility and make sure the diagnosis of syphilis of the stomach.

The patient was at once put on specific treatment. Salicylate of mercury was injected intramuscularly, at first half a grain (gr. ss) twice a week, increasing to one grain (gr. 1) at same interval. Potassium iodide was given by mouth, increasing to one and one-half drachms (ʒiss) three times a day.

It was impossible to obtain salvarsan at this time or I should have given it in addition to the mercury.

On account of the chronic inflammatory condition in the stomach he was put on liquid diet and given a daily lavage. He soon learned to use the stomach tube and washed out his stomach only when he felt the need of it. His diet was gradually increased until at the end of three weeks he could eat anything he wanted. His improvement was prompt and continuous. His pain gradually disappeared, appetite increased, weight increased from 123 to 134 in two months. When I last saw him, three months after starting treatment, he felt well and strong and was looking for a job. I believe that he has neglected treatment almost entirely since that time, but a letter from him two weeks ago stated that he has worked continuously since leaving Richmond, has had no further symptoms and weighs 140, a gain of 17 pounds.

Summary: This case has the typical symptoms and signs of syphilis of the stomach with the exception of the stomach analysis, which shows a higher acidity, subacidity or achylia being the rule.

Briefly the symptoms are:

1st. Gradual onset 20 years after the inital lesion.

2d. Pain almost constantly present and located in epigastric angle.

3d. Vomiting without nausea.

4th. Absence of blood in stool and vomitus.

5th. Absence of physical signs except epigastric tenderness.

6th. Normal blood count.

7th. Wassermann (+ + ++).

513 *East Grace Street.*

THREE INTERESTING CASES.

By R. S. MARTIN, M. D., Stuart, Va.,
President Medical Examining Board of Virginia.

Case 1.—A married lady, age 28, mother of two children, consulted me a few months ago, complaining of pain and soreness in the lower abdomen. Most of the pain was located on left side in region of the ovary. Dark, thick, bloody discharge passed from vagina. On examination, a boggy mass was felt in her left side. Temperature was 100° F., pulse 90. She was put to bed and prepared for abdominal operation. When abdomen was opened a large clot of organized blood was found in her left side, and free blood in the pelvis; the ovary was surrounded by the clot; the tube was not ruptured, but enlarged. About one-half of the ovary was destroyed.

My diagnosis was ovarian pregnancy. She made a perfect recovery.

Case 2.—I operated several months ago on an infant, six weeks old, in the practice of Dr. W. C. Akers, Stuart, Va., for strangulated inguinal hernia. The tissues were very delicate and the different layers could not be recognized. The gut was very dark, but color partly returned, after the constriction was relieved, before gut was returned to abdominal cavity. The infant made a rapid recovery.

My reason for reporting this case is the age of the infant.

Case 3.—Last fall I had a case of typhoid fever in a boy aged 13 years. It ran the usual

course until the middle of third week, when hemorrhage from bowels began. With the second hemorrhage he vomited at least a pint or more of dark blood. He went into a state of collapse and pulse left wrist. Prompt use of morphia brought about reaction, much to my surprise and gratification. The after-treatment consisted of morphia when necessary to control bowels, ice bag locally, starvation for 48 hours, then very little nourishment for several days, with no bowel movement for 5 days. He made a good recovery. This is the second case of the kind I ever treated.

Proceedings of Societies, Etc.

The Accomac Medical Society

Held its regular meeting at Onley, Va., April 25, 1917, Dr. Edgar W. Robertson, presiding. The annual election of officers resulted as follows: President, Dr. S. S. Kellam, Belle Haven; vice-president, Dr. W. M. Burwell, Chincoteague; secretary-treasurer, Dr. Jno. W. Robertson, Onancock.

The following were duly elected to membership: Dr. Burleigh Mears, Belle Haven, and Dr. A. G. Vaden, Temperanceville.

Dr. J. H. Ayres presented the following resolution, which was adopted, and the secretary was ordered to send a copy to Dr. Fletcher:

"The Society learns with sincere regret of the indisposition during the past winter of Dr. Frank Fletcher, who was the first president of this body, and wishes to extend to him our pleasure at the report of his restoration to health."

Dr. W. M. Burwell reported a case of Eclampsia in Which Pituitrin Was Used with Good Results. There was an informal discussion on pituitrin, and report of miscellaneous cases was made by Drs. Ayres, E. W. Robertson, Nevitte and Kerns.

A committee, appointed to draft suitable resolutions on the death of Dr. T. T. Taylor, presented the following report, which was adopted:

"*Resolved*, That, in the death of Dr. T. T. Taylor, Atlantic, Va., our Society has lost one of its valued members. While bowing to the will of an all-wise Providence, we deplore our loss and extend our sincere sympathy to his bereaved wife and family, and friends.

"*Resolved*, That a copy of these resloutions be spread upon the minutes of our Society, be published in the county papers and be sent to the family."

There were present at this meeting: Dr. Edgar W. Robertson, president; members, Drs. S. S. Kellam, R. R. Nevitte, O. R. Fletcher, Burleigh Mears, W. F. Kellam, A. G. Vaden, Ira Hurst, W. M. Kerns, Jno. H. Ayres, W. M. Burwell, and Jno. W. Robertson.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 20.)

Brain Abscess From Chronic Suppuration of the Frontal Sinus.

By T. PASSMORE BERENS, M. D., New York.

In a previous communication the writer reported a case of this affection, with a record of forty-nine other cases found in the literature.

Since then six other cases have been recorded, and are herewith briefly narrated, to which the following is now added:

A male, aged thirty years, was operated on January 16, 1913, under gas-ether anesthesia. Radical external frontal and sphenoidal operation and opening of the antrum of Highmore through the nasoantro wall. Slow convalescence.

In December, 1913, pus in the nose. Old wound reopened through the nose and washed out. This had to be repeated in July of the following year. In December of the next year recurrence of discharge, and on January 5, 1916, there was a large swelling of the cicatrix in the right frontal region and headache, and the old wound was opened under anesthesia. Much pus flowed from the wound, and also from the antrum, which was opened.

Granulations in the roof of the sinus hid a perforation which led to a cavity two and one-eighth inches from the roof of the sinus. This opening was gently enlarged, and a horse hair drain placed therein.

Finally, a soft rubber drain was inserted, and the discharge continued for five weeks. The wound was not allowed to heal for some weeks thereafter.

Culture from brain showed streptococcus hemolyticus in pure culture, and the same were found in blood culture in small numbers the day after the operation.

Recovery complete except that there was still considerable discharge of pus from left nostril.

Analyses, Selections, Etc.

The Effect of Calcium, Water, and Other Substances Given Intravenously on Blood Composition and Urinary Secretion.

D. M. Davis describes experiments in which it was desired to inject quantities of fluid intravenously in animals without consequent diuresis. This end was attained by injecting distilled water, mixtures of $CaCl_2$ with NaCl solutions, and dilute solutions of dextrose at such rates that the animal received less than .85 gms. dextrose per kilogram hour.

Over doses of Ca made the blood become more concentrated, with increased hemoglobin and diminished water content.

In all the other injections, there was definite hydremia, as shown by the dried weight of the blood. Simultaneously, the freezing point of the blood was shown to fall.

It appears that diuresis may be absent, therefore, while hydremia is present, and also while the blood sugar is increased by over 100 per cent. Since the freezing point has usually shown a fall, the author hazards the suggestion that the tendency to diuresis, which is the result of an increase of any excretable substance in the blood, may be counteracted by a simultaneous decrease of some other excretable substance in the blood.

Other aspects of the theory of diuresis are discussed.

The inhibitory action of Ca on urinary secretion, shown by J. B. MacCallum, is confirmed.—*Journal of Urology*, February, 1917.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science—A Manual of Practical Psychotherapy, designed especially for the Practitioner of Medicine, Surgery and Dentistry. By HENRY S. MUNRO, M. D., Omaha, Neb. Fourth edition, revised and enlarged. St. Louis: C. V. Mosby Company. 1917. Cloth. 8vo. 481 pages. Price, $5.

This book presents the practical as well as the scientific side of psychotherapy, thereby bringing home to the reader its value in application to every-day work. As the author well states, "The tool of psychotherapy is suggestion, and all suggestion operates upon the conscious every-day actions and beliefs of the patient, influencing the higher intellectual faculties and motor functions, and the subconscious, involuntary psychophysiological mechanisms comprising the functions of the entire animal physiology." * * *

"It is by reason of the neglect of psychological methods of treatment by the medical profession that many sick people have been forced to ignore scientific medicine in vain effort to obtain relief from their psychophysical ills, and to seek aid from the Christian scientist, the osteopath, the magnetic healer, or anything that offered help by means other than persistent drugging and unreasonable surgical procedures."

The influence of mind over body has long been recognized, such influence being frequently seen in instances where the physician or surgeon has a personality that carries weight to his words, impressing the patient and giving him confidence, to the end that he is encouraged as to the outcome. This optimism from suggestion—a look, a word, or what-not, on the part of the successful medical man—is an asset that is not to be ignored in its results.

Suggestive Therapeutics shows the value of suggestive measures in whatever form applied, and it tells how best to apply them. The work has a much larger field of usefulness than the unthinking would imagine, and we commend it as worthy of more careful study from the profession at large. The book is fully indexed.

Being Well-Born. By MICHAEL F. GUYER, Ph. D. Published by The Bobbs-Merrill Co. Indianapolis. Price, $1.25.

It is well recognized by all thinking men that one of the fundamental rights of a child is that of being well-born. If it so, the principles of heredity cannot be emphasized frequently enough, and any work which deals with definite data of genetic transmission should be welcome. The present work deals with the principles of inheritance. The author demonstrates clearly the truth that a child's fate in life is frequently decided before birth and, therefore, it is of paramount importance in life, on one hand, to choose the proper mate and, on the other, to prevent parenthood to the unfit.

The author, in discussing heredity, points to three methods of investigation, viz.: experimental breeding, statistical method, and biometrical method. In the chapter on the bearers of the heritage he speaks very interestingly on reproduction and heredity in protozoa, on specialization of cells, on individuality of chromosomes, and on the latter being responsible for the distinctiveness of given characters. A special chapter is devoted to modifications acquired directly by the body inherited. Here the author endeavors to prove that external influences do not affect the germ-cells in warm-blooded animals. In the last chapter special emphasis is laid on race betterment through heredity. The book throughout shows profound erudition of the author.

ALFRED GORDON, M. D.

Editorial.

Body Defense From Poliomyelitic Infection.

In an address before the National Academy of Science, April 17, 1917, on the mechanisms that defend the body from poliomyelitic infection, Flexner tells us the virus enters and leaves the body through the mucous membranes of the nose and throat; also, that the organism of poliomyelitic infection will pass through a white porcelain filter; this would exclude all organisms that will not pass through the filter. Further, in discussing the subject, he says that it is a general infection. Many cases do not affect the nervous system; therefore, doubtful cases with no neurological symptom must be diagnosed by a laboratory method, viz., finding the organism in the secretions of the mucous membranes, or the immunity qualities of the blood of the suspect. The first protective barrier against infection he calls external or extra nervous. He says there is found in the normal secretion of the mucous membranes of the nose and throat a substance that will destroy the poliomyelitic virus. This he proves by mixing some of the poliomyelitic virus with the secretion from the nose and throat; animals injected with this mixture give negative results. The second protective barrier is the membranes and fluids surrounding the central nervous system.

Flexner says that the greatest care should be used to protect these barriers from damage. While he did not specifically say, the inference is clear, that spraying can do no good and may do great harm in washing away immunizing substance. Also, a spinal puncture may break down the internal barrier; therefore, great care should be used in using spinal puncture for diagnostic purposes. These protective barriers, he thinks, explain the small per cent. attacked in proportion to the population.

The only treatment advanced is serum from animals and human beings who have had the disease.

PHILIP S. ROY, *M. D.*

Medical Officers Reserve Corps.

The Surgeon-General, U. S. Army, has appointed boards in various parts of the country, composed of officers of the Medical Reserve Corps, to whom applications of those wishing to join the Medical Officers Reserve Corps may be sent. The chairmen of the boards most convenient to Virginia doctors and those nearby are 1st Lieut. Stuart McGuire, M. R. C., Richmond, Va.; 1st Lieut. Wilbur M. Phelps, M. R. C., Staunton, Va.; 1st Lieut. A. B. Hooe, M. R. C., 1220-16 St., N. W., Washington, D. C.; 1st Lieut. John W. Long, M. R. C., Greensboro, N. C.; and 1st Lieut. John E. Cannaday, M. R. C., Charleston, W. Va. Certain officers of the regular Medical Corps have also been instructed to receive applications.

The age limit is between twenty-two and fifty-five years. Examination of the applicant consists of a physical examination, examination of diplomas and certificates, and oral examination as to fitness on different medical subjects. The applicant enters the Corps as a first lieutenant, but with opportunities of promotion to captain or major. Pay and emoluments are only received when on active duty, these being identical with those of equal rank in the Regular Medical Corps. Age limit for the Regular Medical Corps of the U. S. Army is twenty-two to thirty-two years.

The South Piedmont (Va.) Medical Society,

Which met in Lynchburg, April 16, had an attendance of about fifty doctors and the meeting was a most successful one. Officers elected at the meeting for the ensuing year are: President, Dr. H. W. Dew, Lynchburg; vice-presidents, Drs. R. T. Ramsey, Gretna; E. H. Miller, Danville; J. B. Lacy, Nathalie, and W. O.

Tune, Brookneal; secretary, Dr. George A. Stover, and treasurer, Dr. T. E. Armstrong, both of the latter of South Boston, and re-elected.

A New Ambulance Company,

Formed to complete the organization of the First Virginia Brigade, was mustered in at Norfolk, Va., early this month. The minimum strength of the command will be 100 men. The captain is Dr. Thomas V. Williamson, who, with the help of Major Junius F. Lynch, surgeon-general of the Virginia National Guard, organized the company. Drs. Samuel P. Oast, Chas. W. Flowers and M. W. Healy are among the other doctors connected with this company.

Married—

Dr. Robert Edgar Mitchell, Richmond, Va., and Miss Julia Gardner Carlton, Toano, Va., April 28.

Dr. James Edgar McClees, Purdy, Va., who graduated from the Medical College of Virginia last year, and Miss Kate Clay Phillips, Richmond, April 25.

Dr. H. Gardner Middlekauff, recently of the Western State Hospital, Staunton, but who has just accepted a position at the C. & O. Hospital, Huntington, W. Va., and Miss Carrie Bell Sheetz, of Spring Hill, Va., April 25.

Dr. George Brooks West, Norfolk, and Miss Esther Wheelwirght, of this city, April 28.

Dr. Dorsey Goodwin Tyler, formerly of this city, but more recently of New York, and Miss Esther Slaughter Bennett, May 15.

Dr. Martin Donelson, U. S. Navy and recently on the Receiving Ship at Norfolk, Va., and Miss Virginia Williamson Dance, Danville, Va., April 25.

Asst. Surg. George Boyd Tyler, U. S. Navy, formerly of Gwathmey, Va., and Miss Viola Antionette Boyer, of Key West, Fla., in April.

Dr. E. C. Levy Honored.

Dr. Levy, who recently resigned as chief health officer of this city, to accept a position with the North Public Health Bureau of New York, before leaving Richmond, was presented with a handsome silver loving cup by the members of the City Health Department, as a token of their esteem and in appreciation of his work while in the service of the city. Dr. Levy won an enviable record in his work as Health Officer of Richmond, and, as a public health officer, his reputation is nation-wide.

Dr. Roy K. Flannagan,

Who assumed his duties as Chief Health Officer of Richmond, May 1, succeeding Dr. E. C. Levy, has gained a wide reputation as a sanitary expert during his past six years' connection with the State Health Department, and was highly recommended for this new position.

New York Hospital To Have Department of Urology.

According to the will of the late James Buchanan Brady, who several years ago gave money for the establishment of the Brady Urological Institute at Johns Hopkins Hospital, about $4,000,000 has been given to the New York Hospital, for the establishment of a similar department there. The will designates that Dr. Oswald S. Lowsley, of New York City, should be the first director.

Dr. and Mrs. J. Alfred Riffe,

Recently of Fire Creek, W. Va., have moved to Clifton Forge, Va., where Dr. Riffe has been appointed a member of the staff of the Chesapeake and Ohio Hospital.

Petersburg Medical Defense Committee.

Dr. Stuart McGuire, chairman of the Virginia Committee on Medical Preparedness, has appointed the following physicians as the auxiliary medical defense committee of Petersburg and Dinwiddie County: Dr. William F. Drewry, chairman, and Drs. J. R. Beckwith, Jos. M. Burke, W. H. Crockford, C. T. Jones, H. G. Leigh, R. A. Martin, E. L. McGill and J. W. Osborne, of Petersburg; Dr. G. S. Fultz, of Butterworth, and Dr. D. C. Mayes, Church Road.

Dr. Beverley R. Tucker,

Of this city, was on May 4 appointed by Governor Stuart as a member of the State Board of Health, to fill the vacancy caused by the death of the late Dr. George Ben Johnston.

Assistant State Health Commissioner.

Dr. W. A. Brumfield has been elected by the

State Board of Health as Assistant State Health Commissioner, to succeed Dr. R. K. Flannagan, who resigned to become Chief Health Officer of Richmond.

Dr. Brumfield, who is a native of Pittsylvania County, has been with the State Health Department for about six years. He has recently been a district health officer with headquarters at Lynchburg, but will now move to Richmond. Prior to accepting the position with the Health Department, he practiced at Brookneal, Va.

The Association of Medical Officers of the Army and Navy of the Confederate States

Will hold its twentieth annual meeting in the New Willard Hotel, Washington, D. C., June 4-8, inclusive, during the annual reunion of United Confederate Veterans. All those who were surgeons, assistant surgeons, or acting assistant surgeons and chaplains of the Confederate army or navy, and all those who served in the army or navy as soldiers or sailors—not then medical officers—but who, after the war, became regular practitioners of medicine in good standing, and all regular practitioners of medicine whose fathers or grandfathers served in the Confederate army or navy are eligible to full membership. Further information may be obtained of the secretary, Dr. Samuel E. Lewis, 1418 Fourteenth street, N. W., Washington, D. C., or the president, Dr. Carroll Kendrick, Kendrick, Miss.

N. C. Committee of Council of National Defense.

Governor Bickett appointed the following physicians as the personnel of the North Carolina committee of the American physicians for medical preparedness of the Council of National Defense: Drs. J. Wesley Long, Greensboro; Chas. O'H. Laughinghouse, Greenville; Benj. K. Hays, Oxford; Chas. W. Banner, Greensboro; Marshall H. Fletcher, Asheville; Robt. L. Gibbon, Charlotte; James E. Stokes, Salisbury, and David T. Tayloe, Washington.

The South Carolina Medical Association,

Which held its annual meeting at Spartanburg, last month, elected Dr. Frank H. McLeod, of Florence, president, and re-elected Dr. E. A. Hines, of Seneca, secretary-treasurer. The next meeting is to be held at Aiken.

The National Board of Medical Examiners,

As we previously announced, will hold its second examination in Washington, D. C., June 13, 1917, the examinations lasting about a week. For further information, apply to Dr. J. S. Rodman, 2106 Walnut Street, Philadelphia.

Medical Students Urged to Complete Course.

A bulletin, issued by the Council of National Defense, urges medical students, in the interest of national safety, to continue their work until graduation. With the exception of such men as the navy can utilize, the additional year of hospital internship is also urged for all graduates, as the surgeon-generals of both army and navy consider this essential in their branches of the service. It is cited that medical schools are, in a sense, munition works to produce trained medical officers for the army and navy. Facing the possibility that the war may last several years, a continuius supply of trained medical officers is essential for the maintenance of armed forces in the field.

Dr. and Mrs. William R. Aylett,

Newport News, Va., have been guests of Dr. and Mrs. M. D. Hoge, Jr., of this city.

M. D. Delegates to Conference.

Governor Stuart has appointed the following doctors among the delegates from Virginia to the National Conference of Charities and Corrections, to be held in Pittsburgh, June 6 to 13: Drs. A. S. Priddy, Madison Heights; E. H. Henderson and S. W. Dickinson, Marion; L. S. Foster, Chas. R. Grandy and L. T. Royster, Norfolk; William F. Drewry, Petersburg; Roy K. Flannagan, Richmond; J. W. Preston and W. Brownley Foster, Roanoke; J. S. DeJarnette, Staunton, and B. B. Bagby, West Point.

Dr. M. J. Payne,

Staunton, Va., was a recent visitor in Richmond.

Dr. J. J. Nelson, Jr.,

Has returned to his home at Columbia, Va., after a short visit to Richmond.

Clinical Sessions at A. M. A. Meeting.

Dr. Samuel G. Gant, of New York City, secretary of Clinical Sessions, has issued a full

program of the clinics in general surgery, to be held at practically all the hospitals in New York City and Brooklyn, during the meeting of the American Medical Association in that city, June 4-8. We regret that space forbids the publication of the list, which includes the names of many of the most prominent surgeons in this country.

Health Officials Work for Sanitation.

Representatives of the health departments of nearly all the States in the Union met in Washington, May 1, with officials of the U. S. Public Health Service, to perfect a program of co-operation during the war. Methods of general sanitation were discussed and a plan was outlined to create a health officers' reserve corps from which the government could obtain additional help if needed. Municipal and State authorities pledged their co-operation with Federal officers in looking after sanitation at and near the various mobilization and training camps established throughout the country.

Dr. and Mrs. Harry W. Porter

Have returned to their home in Louisa, Va., after a visit to White Sulphur Springs, W. Va., and to their son, who is at school in Lewisburg, W. Va.

Dr. W. T. Graham,

Of this city, gave a lecture and showed lantern slides and moving pictures illustrating various points in orthopedics at a meeting of the Methodist Women for Social Service, May 11.

Dr. C. Mason Smith,

Physician to the Fredericksburg, Va., Normal School, is giving the students an elementary course in the principles of first aid to the injured.

Nurses Graduate.

At the graduating exercises of the Virginia Hospital Nurses' School of this city, May 2, fourteen nurses received diplomas. The presentation of diplamos was made by Dr. W. Lowndes Peple, while Dr. A. Murat Willis presented the pins and administered the oaths.

Elected Members of Raven Society.

Through excellence in scholarship, the following members of the Medical School, of the University of Virginia, were among those recently elected members of the Raven Society at that institution: George B. Setzler, Pomaria, S. C.; I. Alexander Bigger, Jr., Rock Hill, S. C.; William Henry Turner, Jr., Afton, Va., and Allen Tupper Hawthorne, Avon, Va.

American Medical Editors' Association.

The annual meeting of this Association will be held in McAlpin Hotel, New York City, June 4 and 5, under the presidency of Dr. G. M. Piersol, Editor of the American Journal of Medical Sciences. A most interesting and instructive program is being prepared and it is contemplated that this will be the largest session ever held in the history of the Association. The forty-eighth anniversary banquet will be celebrated on the evening of June 5 at The McAlpin. Dr. J. MacDonald, Jr., of the American Journal of Surgery, is secretary-treasurer.

Dr. Charles W. Pilgrim,

Who has been in charge of the Hudson River State Hospital, Poughkeepsie, N. Y., has been nominated to be superintendent of the Manhattan State Hospital, Ward's Island, New York, to succeed the late Dr. William Mabon.

Dr. W. J. Coleman,

Mineral, Va., was a visitor in Charlottesville, Va., on business, early in May.

Dr. and Mrs. David P. Scott,

Ashland, W. Va., were recent visitors in Augusta, Ga., having gone there to attend the marriage of Dr. Andrew Deas, Jr., and Miss Pet Gwendolin Davis, of that place.

Dr. William D. FitzHugh,

Formerly of Doe Hill, Va., is now located at Morrisville, Va., where he expects to practice medicine. Dr. FitzHugh and family have recently been visiting relatives in Culpeper County.

Dr. W. Armistead Gills

Has returned to his home in this city after a brief visit to Morristown, Tenn.

Doctors to Assist in Social Economy School.

The following doctors have been appointed instructors in the Richmond School of Social Economy, recently organized in this city: Drs. Ennion G. Williams, Roy K. Flannagan, James H. Smith, William H. Higgins, McGuire Newton, William A. Brumfield, N. Thomas Ennett, Jas. O. Fitzgerald and W. A. Plecker, all of Richmond.

The American Proctologic Society

Is to hold its nineteenth annual meeting in New York City, June 4 and 5, at Hotel Astor. Dr. Alfred J. Zobel, San Francisco, is president, and Dr. Collier F. Martin, Philadelphia, secretary-treasurer. The profession is invited to attend all meetings. The preliminary program, in addition to the President's address, gives a list of thirteen papers by prominent proctologists.

Local Committee for Scouts.

Drs. Paul W Howle and H. C. Rucker, of this city, were on several of the committees which arranged for the meeting of the scout officials from the Southeastern States in Richmond, early in May.

Virginia Board of Pharmacy.

Twenty-four of fifty applicants, appearing before the Board at their April meeting, received the registered pharmacist's certificate, and nine received certificates as assistant registered pharmacists. Of ten applying for this latter certificate, only four were successful.

Mr. J. E. Jackson, Tazewell, was elected president of the Board, and Mr. E. L. Brandeis, Richmond, was re-elected secretary-treasurer. In discussing conscription under the selective draft system, it was estimated that such plan would affect approximately 60 per cent. of registered and registered assistant pharmacists, who are unmarried and of required age.

The Tennessee State Medical Association,

At its annual meeting in Nashville, selected Memphis for its next place of meeting, and elected Dr. E. T. Newell, of Chattanooga, as president. Dr. Olin West, of Nashville, was re-elected secretary.

Surg. G. B. Young,

Of the U. S. Public Health Service, was authorized to deliver a course of lectures before the Women's Branch of the Navy League in Norfolk, Va., last month.

The American Association of Immunologists,

Which met in New York City, in April, elected Dr. John A. Kolmer, Philadelphia, president, and Dr. Martin J. Synnott, Montclair, N. J., secretary. The next meeting is to be at Minneapolis, in April, 1918.

Six Physicians Shortly to Leave for France.

As we go to press, we learn that Dr. Stuart McGuire, chairman of the Virginia Committee on Medical Preparedness, in response to a request from the American Red Cross Society, has secured a corps of six physicians, between the ages of 25 and 35, to shortly sail for France where they will see war service. While it is understood that some of the physicians are Richmonders, Dr. McGuire deemed it best not to give out names at this time.

Obituary Record

Dr. John Hobson Womack,

A well known physician of Chatham, Va., died in the hospital at Danville, May 5, after being in bad health some time. He was born in Pittsylvania County, forty-eight years ago, and studied medicine at the University College of Medicine, Richmond, from which he graduated in 1900. Before moving to Chatham, he was located at Spring Garden, Va. He was a member of his State and local medical societies, and was a Mason and Elk. His widow and a large family connection survive him.

Dr. Thomas T. Arnold,

A prominent Confederate Veteran, of Comorn, Va., died April 25, after an illness of two weeks, aged 82 years. He had not practised for years. His widow and several children survive him.

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Original Communications.

ACUTE LYMPHATIC LEUCAEMIA—WITH REPORT OF A CASE WITH OVER 1,000,000 WHITE CORPUSCLES TO THE CUBIC MILLIMETER.*

By JOHN STAIGE DAVIS, M. A., M. D., University, Va., Professor of Practice of Medicine.

Mr. President and Gentlemen:

When I received your appreciated invitation to speak to you about some medical subject, I was naturally much exercised as to a suitable theme. While the last few years have seen many variations in the accepted types of common diseases, with their respective treatments, as well as revived and exploited some rarer ones, I felt there was nothing I could add to the abundant descriptions of clinical history and therapeutics as the result of personal experience.

At this embarrassing juncture there was admitted to the University of Virginia Hospital a case, at least in its termination, of my announced subject, so striking and in some respects unique that I felt impelled at once to report it to you along with my other recent experience in the disease, and get the chance to discuss the still elusive features of this highly mortal malady. The ten years just gone have seen much work in the so-called blood diseases, as a somewhat careful review of the literature reveals. In the last few years we have had four cases of this kind, three of them since May, 1916, which each approached their graves by uniformly accelerated motion. The first lasted a month; the second ten days; the third a week, and the fourth 14 hours. I dread to meet the fifth, as by this schedule, it will hardly survive the shock of the diagnosis. Grasty makes the acute forms fatal in from ten days to two months, but all are not agreed as to this restriction. Dr. Osler allows four months lease of life.

I shall first report the cases and then take up their special features with reference to possible etiology.

1. The first was a white girl, eight years old, who presented herself for bleeding gums, nose and bowels. She had purpuric spots on the body and was very anaemic looking. Her blood count showed 160,000 whites to the cmm., with a percentage of 90 large mono-nuclear lymphocytes. Physically, there were enlarged glands universally. Her parents removed her when the hopeless outlook in her case was expressed, and she dutifully died without a murmur, one month later. The entire duration of her illness was thought to be two months, but her history has been mislaid and the statement is based on the memory of the attendants.

2. The second case was a mulatto boy, fifteen years old, who had been operated on eighteen months before for osteomyelitis of the left femur. No lymphatic glands were enlarged at that time, and no accurate blood examination made. During February of 1916, he returned to the hospital on account of a discharging sinus, and had pneumonia with a leucocytosis of from 35,000 to 62,000 per cmm., but with polymorphonuclears of 72 to 86 per cent. and small mononuclears from 7 percent. to 15 percent. No glandular enlargement was detected, and he made a good recovery after crisis on the seventh day. He re-entered the hospital on July 1, 1916, very sick indeed, and almost comatose, though he could be roused and then made intelligent answers. His face was œdematous and his gums and palate bleeding, but his tonsils were not enlarged. His liver and spleen were both increased in size, the latter extending two inches below the costal margin and toward the mid line. There was uni-

*Read before the Roanoke Academy of Medicine and Surgery, Roanoke, Va., March 5, 1917.—Discussion of this paper appeared in the Semi-Monthly, March 23, 1917.

versal glandular involvement, the nodes being discrete, movable and somewhat tender. The cervical were the most affected, and this was said to have existed only two weeks from which he dated the onset of this attack. His blood examination showed 480,000 white cells per cmm., with 91 2-10 percent. small lymphocytes, three and five-tenths percent. polymorphonuclears, and three percent. large lymphocytes, no eosinophiles or mast cells. The reds were four million three hundred and four thousand, and showed much variation in size and shape. There were a few normoblasts, and his hemoglobin was 45 percent. There were many profuse hemorrhages from the bowels, one of which lasted for an hour, and a noisy delirium was a striking feature. He died on July 11, after ten days' vain observation and in less than three weeks of the apparent onset.

3. The third case was a white man, forty-eight years old, who had been failing for a year, with an apprehended nephritis, for which he was brought to our hospital. He then had a marked pyorrhœa, very defective teeth, and an obstinate gum boil. There were no palpable lymphatics in the neck, but his spleen was enlarged to the costal margin and his liver a finger's breadth below the ribs and tender. The inguinal nodes were quite perceptible. He had a systolic mitral murmur with apex beat in the nipple line. His urine contained a three mm. ring of albumen and many hyaline and granular casts, with much pus and a few blood corpuscles. Its specific gravity was 1023, and the reaction acid. The routine examination of his blood shows 227,000 leucocytes per cmm., of which 95 percent. were lymphocytes. There was a slightly irregular pulse and transient nausea. Six days after admission, his fever rose rapidly to 102, his pulse to 140 and his respiration to 40, with signs of pneumonia in the lower lobe of the left lung behind. He died rather suddenly twenty-four hours later. No autopsy was permitted.

4. The fourth case, acute at the close, crown jewel of the quartette, and inspirer of this subject, was a white man, sixty-one years old, famous in his rural community for alcoholism, heart and kidney trouble, and general debility. Having suffered much of many physicians for the last two years, who rather made him worse, he presented himself at the University of Virginia Hospital on January 3, 1917. Nephritis had proved fatal to ten members of his family. Both parents, four brothers and sisters each, and five more brothers had died in childhood. Of this glorious galaxy of sixteen, he was now the sole survivor. There had been no tuberculosis nor malignancy, but much nervousness in the family. Personally, he was perfectly well up to two years before, and in the last twelve months had shown much cardiac and renal insufficiency, with intermitting œdema and dyspnœa, but no bloody discharges. His devotion to alcohol was unimpaired, though he had lost fifty pounds of weight. His illness possibly dates back a little more than two years, when he noticed weakness in his legs, which was variable, but often so great that he could not stand up. The final trouble, however, probably commenced with the enlargement of the spleen, which was noticed about a year before by a local attendant and has been progressing since. His general adenitis is much more recent. Purpuric spots appeared three months ago on the hands, face, feet and neck, many coalescing and remaining some weeks to be succeeded by other crops. Oedema has been most oppressive and continuous for the last year. Urination is frequent but scanty. On admission, his temperature was 98.6 F., his pulse 88, and his respiration 24. His blood pressure was 140 mm. systolic, 65 mm. diastolic. Physical examination showed a lemon-tinted subject, though normally developed, and fairly well nourished. There were many purpuric spots on the hands, neck and mastoid region. Other salient features were very poor teeth and profuse pyorrhea. There were many firm, enlarged, discrete glands in the mouth and about the neck, varying in size from a pea to a walnut. The axillary, inguinal and epitrochlears were also very much involved, as were, too, the abdominal lymphatics, which were fused into an irregular mass from the pelvic brim to the costal margin and thickest along the vertebral column. The spleen extended to the navel, and the liver from the fourth space to an inch below the ribs, and was not tender nor nodular. The heart showed decompensated mitral insufficiency, the lungs chronic passive hyperæmia. The kidneys were not palpable. The urine was amber colored, cloudy, acid, with a specific gravity of 1010, and showed a half a mm. ring of albumen, but no sugar. The sediment was scanty, but contained many hyaline and coarsely granular casts with a large

number of pus cells and calcium oxalate crystals. The fascinating find was in the blood, which disclosed 1,256,000 *white corpuscles* to the cmm., the number several times verified by dilution in the red counter. The red cells were 1,933,000 per cmm. with hemoglobin of 20 percent. The differential leucocytic count was 99 *percent. small mononuclears*, of which 17 percent. were degenerated, 8/10 percent. large mononuclears, and 2/10 per cent. polymorphonuclears. No blasts nor myelocytes were seen, and only one eosinophile. The red cells exhibited the characteristics of marked secondary anæmia, with varying volume index and much poikilocytosis. The oxidase reaction was negative on these small mononuclear cells, which were thereby shown to be from the lymphatic system and not from the bone marrow..

After a very lestless night, the patient died rather suddenly about fourteen hours after admission. The autopsy disclosed, beside those detected clinically, chains of involved lymphatics along the iliac vessels. Protocoll adds the following points: The kidneys were much enlarged and all of the abdominal organs were more or less infiltrated. The thymus was not enlarged, as in several other recently reported cases, where it was made a special feature. Microscopically, collections of lymphoid cells were found in the epicardium, the vessels of the myocardium, the lungs, especially the lung vessels, and in some of the alveoli. The liver tissue was greatly atrophied and many of the remaining cells degenerated by the pressure of vast numbers of small lymphocytes, which distended the veins and venules rather than the capillaries. The stroma around the portal systems was densely infiltrated with these cells. The kidneys were similarly affected. Lymph glands, spleen, and retroperitoneal aggregations were hardly distinguishable histologically, all being filled with these cells, some of which showed occasionally two daughter nuclei, but no definite mitoses. The infiltrations were all rather too diffuse for lymphosarcoma, and the absence of mitoses, too, speaks against a malignant neoplasm. The marrow smears contained a great excess of small lymphocytes. No cultures were made, nor any bacteria found in the tissues.

While this may not be originally an acute form, there was such an exacerbation at the last as to palliate the presumption I show in thus attempting to classify it. This case is high up on the record numerically for lymphocytes, or, indeed, for leucocytes of any class. I thought it was the top, but Cabot has reported 1,480,000, and Slade 1,300,000, the former with 88 percent. small lymphocytes, and the latter with 96 percent. of the same kind. These are the only two ahead of my case, and there are only three others that I can find reported approaching this number, respectively, Hart, with 1,168,000; Baldwin and Wilder, with 1,113,000, and Pepper, with 1,190,000.

Dr. Barker, in Monographic Medicine, refers to 500,000 per cmm. as a maximum, but in his article on the Clinical Diagnosis of Acute Leucæmic States, in the *Southern Medical Journal*, of last December, he gives 280,000 as his personal maximum, with 92 percent. of small lymphocytes, and 4.4 percent. of polymorphonuclears. Cabot reports 800,000 in a boy who recovered.

McCrae, in the *British Medical Journal*, gives an account of five cases, all in young males, who had fever and hemorrhages. He regards the process as a severe toxæmia, primarily affecting the bone marrow, with a rapid destruction of the red cells. Cocci were found in the blood twice. The lymph nodes, he thinks only secondarily involved and often not having time to enlarge in the most acute cases. I will not discuss further text-book symptoms, which vary in individual cases, but devote the rest of the time to a consideration of the possible etiology, with a final word on treatment.

The causes and nature of this subject have engaged the attention of a number of scientific hematologists in the last two years, and may be classified under two main categories, the infectious and malignant theories, though it must be admitted that neither view is fully satisfactory even to its most enthusiastic advocates. Much light has been thrown on the origin of the cells in the different leucæmias by the oxidase and other staining reactions. All agree on the excessive proportion from 90 to 99 percent. of the small lymphocytes and on the paucity of the polymorphonuclear neutrophiles, which are usually the conspicuous elements in ordinary infections, but are not invariably increased in malignant disease unless the bone marrow or some other strategic area becomes the seat of metastasis. Three years ago, in the *American Journal of the Medical Sciences*, Cabot, in a discussion of the

lymphocytosis of infection, concluded that this trouble was not of that nature, although he did not thereby intend to commit himself to the malignant theory. Eosinophiles, too, are rare.

McWeeny observed in his case, like mine, the close numerical parallelism between the reds and whites, 820,000 reds to 783,000 whites, with 95 percent. lymphocytes. His cultures were absolutely negative, so he throws in his lot with the malignant advocates.

Panton and Seeley, too, in the *Folia Hematologica*, take the same view. On the other hand, Wilbur last year enthusiastically advocated the infectious origin, and claimed to have discovered a diplo-streptococcus, which he regarded as very suspiciously connected with the process in several cases, one of which had a macular rash with central anæmic spots like septic emboli. He thought the disease due to a low grade streptococcus infection of the bone marrow rendered vulnerable by previous disease. Before death, many of the cases may become aleucæmic, at least numerically, though the abnormal proportion of lymphocytes may even then persist.

Sweitzer has described a case with infiltration of the skin with small lymphocytes under this title very recently, though there was no increase of the cells in the blood.

Franckel and Much, as well as Rhea and Falconer, have discovered bacteria in the blood, and Rappaport, who observed immense enlargement of the thymus in his case, found aureus in pure culture in the blood, but not in the lymph nodes.

Wende and Warfield claim that such cases may arise from Hodgkin's disease, and Steele isolated Bunting and Yates' corynebacterium lymphomatosis granulomatosum from acute lymphatic leucaemia, as did also Simon and Judd, in this country and Bettencourt in Portugal. May not these then be related? Aleucæmic leucæmia may be a reality instead of a contradiction. We have had one case that clinically and pathologically was of this nature, which one of my colleagues is now at work on. Many cases become aleucæmic before death, and even the glands may subside as the end approaches. Lavenson speaks of lymphopenic lymphatic leucæmia, but the article could not be obtained in the Surgeon General's Library. Tileston considers Mikulicz disease as related. Both Huber and Beifield recognize many cases of Werlhof's purpura hemorrhagica as one of the types of this trouble, and the latter reports a case in the last number of the Medical Clinics of Chicago. The former describes three types of acute lymphatic leucæmia: The first and rarest is the "genuinely typical," with enlarged glands, the second with hemorrhages in addition, and the third the buccopharyngeal with hemorrhagic infiltration and necrotic ulceration of the mouth and adjacent parts. The blood picture changes and repeated examinations are desirable.

The last and most authoritative discussion accessible appeared in the *New York Medical Record*, of July, 1916, by Stein, who throws his whole soul into, and stakes his reputation upon, the infectious origin of the trouble. He says that it is an infection engrafted on a lymphatic state, that lymphocytosis is an antagonistic reaction of the blood against antigens of a lipoid nature, as shown by its artificial production when fat is put into the peritoneum. It occurs in varying degrees naturally, and in certain diseases, as tuberculosis, lues, smallpox, malaria, typhoid and whooping-cough, as well as after vaccination. Mays and Gourdy, in the *Journal of the American Medical Association*, February 25, 1917, from Buenos Ayres, describe lymphocytosis as the earliest sign of syphilis, occurring in from 8 to 16 days after infection, and far more reliable than a Wassermann, which can be accidentally or intentionally disguised. Certain poisons are lymphotrophic. They contain a fat splitting ferment (the micro-organisms of tuberculosis and lues have a fatty covering). They think it develops in severe infections, and especially in persons with the lymphatic temperament, especially those with enlarged or persistent thymus, of which there are numerous reports, as previously stated, though it was not found in any of mine.

There are many abortive and mild cases unrecognized without splenic enlargement or other signs that get well. Some of our so called febricula and catarrhal fevers are of this character, as Stein attempts to show.

The great paucity of polymorphonuclears seems to indicate to him the destruction or fatal injury to the marrow. Leucopenia of this character has an ominous significance in other troubles. The sudden onset in lymphatic leucæmia may be the signal of overwhelming attack on the marrow. My second case had

osteomyelitis two years before, which may have weakened that structure as sinuses continued to discharge. Then we got a blood examination during an intercurrent pneumonia, which showed no lymphocytosis, though a very high number of polymorphonuclear leucocytes, so the final attack may have been a new assault on the site of the old infection. The frequent onset or association with sore mouth and pyorrhœa support the infectious idea.

There is no specific pathogenic agent. Ordinary pus germs are most often responsible, but any of our malignant bacterial enemies can get the drop on a susceptible lymphopathic subject. Most cases occur at the extremes of life, or at critical periods, when resistance is low. Stein thinks the disease needs to be studied more from the clinical and pathological standpoint than the hematologic, which has hitherto dominated our conceptions.

The findings are not clearly those of malignant metastasis, but rather suggest the reactions to infections under peculiar conditions. It is a widespread trouble in nature, having been observed in pigs, cows and many other animals. It has been experimentally produced in fowls, by transferring the blood, even without the corpuscles, which certainly looks like an infection. Dr. Barker speaks of an infectious lymphæmia which recovered, and cites an instance of apparent communicability of the troubles from a patient to his physician. He intimates that acute and chronic lymphatic leucæmias may be essentially different in origin, but admits that one seems sometimes to turn into the other.

Certainly my cases did not seem to be like the metastases of sarcoma or other malignant tumor, and, as far as they go, support somewhat the infectious theory. The illustrious sextette of over a million lymphocytes, to which mine belongs, as third fiddle, resemble each other in the enlarged spleens with marked retroperitoneal involvement, suggesting the abdomen as the infection atrium of the disease.

Increase in lymphocytes may then be a symptom of many infections and only becomes dangerous when certain natural barriers are overcome.

Therapeutically, radium and X-rays seem to be more efficacious than benzol, with which my experience is not encouraging; but the infectious view is rather better for treatment, since in these days of vaccines and serums with regular and repeated blood examinations, it may be hoped that a specific will be found to combat the condition before the overwhelming onslaught is launched.

THE INCIDENCE OF TUBERCULOSIS IN THE NEGRO IN CONTRAST WITH OTHER RACES AND PEOPLES.

By THOMPSON FRAZER, M. D., Asheville, N. C.

The relative frequency with which certain diseases attack the various races presents a most interesting field for investigation. That there is a marked difference in the occurrence of diseases and their ravages among different peoples is a well-known fact: the varying mortality from tuberculosis is a striking instance of how differently a disease may affect the various racial groups, such as the "average American," the Jew, the Indian and the Negro.

During the last few years the crusade against tuberculosis has aroused much interest in the subject of the prevalence of this disease among the different races; particularly has the question been studied with the regard to the frequency of tuberculosis in the colored race.

The importance of the health of the negro is, I think, self-evident. Constituting, as he does, 12 out of the 100 million inhabitants of our country, and with economic relations which bring him in close contact with his white neighbors, the health of the negro is a matter that affects—not him alone—but the health of the entire community. This is especially true of the Southern States in which the bulk of the race is concentrated. It is, therefore, largely a Southern problem that we have to deal with.

In attempting to estimate the frequency of tuberculosis among negroes we meet at once with many difficulties: the disease is not as promptly reported as when it affects the white race, for colored people do not so readily seek medical advice. Moreover, constituting the laboring class as they do, they are often obliged to continue at their work until the disease has become far advanced, scattering, meanwhile, the seeds of infection among those with whom they come in contact.

Approaching the problem in another way, we find that, though the actual prevalence of tuberculosis among the colored race may be difficult of estimation, the mortality from this

disease is more readily ascertained. I shall not tax your patience with the recitation of a long list of figures, but shall content myself with quoting the death-rate from tuberculosis in a Southern city of which the population is almost equally divided between white and colored, namely Savannah, in which there are 37,000 whites and 42,000 negroes.[1] During one year there were in this city a total of 183 deaths from tuberculosis, 48 among the white, 125 among the colored race. This means that the mortality from tuberculosis in Savannah is more than twice as great—nearly three times as great—among negroes as it is among the white race. Other cities furnish similar statistics,—in some the negro death-rate is still higher. While the difference in mortality from tuberculosis, among the two races, is not so marked in the country districts, here again the negro death-rate is in excess of the white; so that there can be no question of the greater mortality for tuberculosis among the colored than among the white people.

Probably the reader is aware that a race presenting a still higher mortality from tuberculosis are the Indians, among certain tribes of which race the disease is the cause of three-fourths of the deaths. It is the high death-rate among this race and the relatively high rate among negroes that is largely responsible for the theory of racial susceptibility to tuberculosis. This apparent susceptibility to the disease is in strong contrast to the relative immunity which is noted among Jews.

In New York City, in one ward, the Jewish death-rate from tuberculosis is only one quarter of that of the Irish and Italians in the same neighborhood. The question is often asked: "Is there, then, an inherent vitality of the Jewish race as opposed to the susceptibility and lack of resistance of other peoples—especially the negro whose mortality is twice as great as the average white—and the Indian whose death-rate from tuberculosis is the greatest of all?"

For a long time the theory of racial susceptibility held complete sway and the rather fatalistic view that certain races were doomed to destruction was prejudicial to proper investigative efforts. I believe that this view still obtains to a great extent. One evidence of progress, however, is, that we no longer accept blindly the wholesale figures which we once did and that we are more careful in making conclusions. We have learned, I think, that too often the varying death-rates in racial and national groups were set down, for lack of precise knowledge. to some hypothetical cause inherent in the make-up of the particular group, whereas it is not unikely that a closer study of environment might reveal conditions which, though intimately bound up with racial life, could not be said to depend entirely on blood-heritage.

There can be no doubt as to the relative immunity from tuberculosis in the Jewish race, but neither this nor the greater mortality among negroes can be properly considered a distinct racial trait, for it can be shown that tuberculosis becomes more frequent in persons of other nationalities if conditions are suitable for its development. Thus, country people who suddenly give up their country existence and outdoor life, taking to the city where they are confined to their work indoors,—these people become readily infected with tuberculosis and have little or no resistance against the disease. This is the case with the Italian immigrants, nine-tenths of whom are of the peasant class. "The abrupt changes of life and labor, and the living in the dark and dirty tenements, rendering these Italian immigrants more susceptible to consumption and other diseases than people that have spent most of their lives in cities."[2]

Thus we see that it is not necessary to assume a special racial tendency to tuberculosis when we can increase the prevalence of the disease among other races by simply changing conditions, that is, by rendering their environment less desirable. Dr. Hirschberg has summed up the matter in a few words: "We know," says he, "that on the whole, tubercuolsis displays no racial preference. Within certain limits, depending on social conditions, the white, black, yellow, and red divisions of mankind are attacked by this disease in the same manner, and the variations observed in the frequency, type, and course of the disease in different groups of people are alike traceable to the same causes, irrespective of racial affinities. We know that the variations displayed by the various social groups of white humanity, such as the difference between city and

country dwellers, rich and poor, those engaged in indoor and outdoor occupations, persons active in a dusty atmosphere as compared with such as are working in clean, airy shops, and the like, are just as great as, often greater than, the differences observed in the white, black, red, or yellow races."

From what has been said it is apparent that susceptibility to tuberculosis and resistance against the disease are not due to any racial idiosyncrasy. Cities today are constantly recruiting their population from the country districts, and in time the process of urbanization will gradually render them more immune to the ravages of tuberculosis. The Jews, it must be remembered, have been inhabitants of cities for two thousand years and have become somewhat immunized against tuberculosis, but they had to pay dearly for their immunity just as other races and peoples are doing now. "They have only the advantage of having passed through a process of infection during the past centuries. Hence their lower mortality from tuberculosis."[3] History repeats itself and the process which has rendered Jews immune is taking place with other peoples as they become urbanized.

Another instance of how changed conditions of living alter one's susceptibility is seen in the case of the Indians.[4] There is evidence that until recently they were comparatively free from tuberculosis. When they gave up their outdoor life and took to living in permanent dwellings they readily fell victims to tuberculosis so that at present, in proportion to their numbers, they furnish the largest number of deaths from this disease. The causes which have contributed to bring this about are the habits of the Indians which are such as to favor infection; poor ventilation in their homes, no isolation of the consumptive, and the practice of promiscuous spitting. If we add to these causes the habit of intemperance, it is no wonder that in some tribes the majority are said to be diseased. Under these conditions we surely cannot attribute the disease to racial predisposition alone.

Nor, are we justified, in the case of the negro, in ascribing the high death-rate chiefly to a racial lack of resistance, except as already stated, the older the civilization of any people—that is, the longer time they have lived in cities,—the greater would seem to be the acquired immunity from tuberculosis. There are many indeed, who seriously question the existence of a racial susceptibility to tuberculosis on the part of the negro. Prof. Kelly Miller, of Washington, D. C., has said: "It has not yet been shown that the negro apart from his environment has any inherent predisposition to this dread disease beyond that of his white fellow sufferers. Tuberculosis is very largely an economic disease."[5]

This opinion is voiced almost uniformly by those who have recently made a study of tuberculosis in the colored race. It has been pointed out that the negro in slave-times was well-fed and cared for; suddenly freed, he could not shift for himself but was forced into an environment that could not but swell the death-rate. Moving to cities as so many have done, living in poor quarters the result of low wages, ignorant of sanitary precautions, naturally improvident and taking no thought of the morrow, it is small wonder that the health of the negro should be so far below that of the white man. For it is not only to tuberculosis that he succumbs: the death-rate in Savannah—that is, the annual ratio per thousand—is in round numbers 12 for white and 24 for colored; while three colored children under ten die for every white child of the same age. This is an indication, therefore, that there is a general lack of resistance to disease.

It is tuberculosis, however, that has made the greatest inroads on the health of the negro. The increased mortality since the war has been made the subject of a study by Dr. Robert Wilson, Jr., of Charleston, S. C.[6] The high death-rate among negroes in that city he attributes to overcrowding and other sanitary evils. He sums up by saying: "Add to this a growing addiction to alcohol, and other drug habits, and we have a mass of removable causes amply sufficient to account for the negro's excessive death-rate from tuberculosis, without reaching after a hypothetical race susceptibility, which, because of its nature, can only be eradicated with the greatest difficulty, if at all."

I need scarcely remind you that the relation of tuberculosis to low wages and overcrowding is a very close one. In a recent number of the *British Journal of Tuberculosis*, Dr. Williamson has called attention to the fact that over

70 per cent. of the cases of tuberculosis occur in houses of three rooms or less. Tuberculosis, therefore, is not so much a racial problem as it is an economic and sociologic problem. Representing, as he does, the working element of the community, with all that this implies, it need scarcely surprise us that the negro has a high mortality from tuberculosis. As long as there is poverty with unsuitable living quarters and insufficient food, as long as there is ignorance, with the lack of appreciation of the danger of foul air and with the violation of every sanitary rule, as long as there is the tendency to drug habits, there is bound to be greater death-rate from tuberculosis among negroes, who, less hardened to the exactions of city life, must fall victims to that disease so dependent upon improper living.

The solution of the problem is by no means an easy one, for not only must the economic status of the negro be improved, but ignorance must be combated and the moral nature developed. That the reduction of mortality from tuberculosis in the negro race is not so impossible of attainment as has been thought is proved by the report of Dr. Fulton, of the Maryland State Board of Health, who has shown that in the past ten years the negroes, with greatly inferior facilities, have made quite four-fifths as much progress in the reduction of mortality from this disease as have the whites.[7]

The conclusion inevitably follows that we need not feel hopeless about the final outcome of what at this moment seems an almost unsolvable problem, if, instead of pessimistically regarding the negro as doomed from birth by reason of race, we put the main emphasis on the economic and educational aspect of the problem. If this is done, I believe it will not be long before our efforts will be productive of results of which we may justly feel proud.

REFERENCES.

1. The Negro Problem in Southern Cities, Dr. W. F. Brunner, *Jour. Outdoor Life*, April, 1915.
2. Tuberculosis Work Among Italians in N. Y., Cavallaro, *Out. Life*, July, 1911.
3. Tuberculosis Among the Jews, Maurice Fishberg, Six. Inter. Con. on Tub.
4. Tuberculosis in the Indian, A. Hardlicka, Six. Inter. Con. on Tub.
5. The Negro and Tuberculosis, Kelly Miller, *Jour. Outdoor Life.*
6. Negro and Tuberculosis, Robt. Wilson, Jr., Inter. Con. on Tub.
7. *Jour. Outdoor Life*, April, 1913.

X-RAY AND ELECTRO-THERAPEUTICS IN MODERN MEDICINE—A FEW CASES, WITH REMARKS.*

By JAMES THOMAS WRIGHT, M. D., Salisbury, N. C.

Science is becoming more exact and investigators are delving more and more into the strange, mysterious and startling, both in the physical and psychical worlds, and recording new and wonderful discoveries, explaining phenomena and registering new results.

Among those studies, vibration, in its various manifestations of sound, heat, light, electricity, violet ray, X-ray, etc., claims a prominent position, and in its medical aspects is very interesting to us as physicians. It is said that life itself is a species of vibration, and that everything is in motion, and the electron theory is a very plausible one.

I wish to call your attention to a few of these phenomena in regard to their uses as curative agents, and, in doing so, I select a few cases at random from a record of the past three years:

Case 1.—Mrs. K., from a nearby town, married, age 32, had a severe form of rheumatoid arthritis, with much deformity, of several years' standing, affecting the joints of the hands, wrists, elbows, knees, ankles, feet, etc. In this case pus cavities were looked for in nose, tonsils, teeth, tubes and ovaries. Diseased teeth were found and removed; some ovarian trouble was found and treated. This patient was given "rheumatism bacterin, mixed," saturated solution of potassium iodid, lithia, urotropin and eliminants, and the leucodescent light and super-heated air locally to the joints, together with the high-frequency and sinusoidal currents, violet-ray, and, finally, local treatment of the various enlarged and deformed joints with the X-ray. The time of treatment occupied four months. The result was marvelous! From a drawn, bed-ridden wreck, carried into my offices in the arms of her husband, this woman gradually regained the use of her limbs—arms, hands, etc.,—more and more until at the present time she walks about unaided and is able to do most of her housework. She had been to Hot Springs,

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Ark., twice for treatment and also to one of the larger hospitals in a northern city.

Case 2.—Psoriasis, diffused more or less over the entire body, had affected Mr. H. for nine years. He had tried the various local remedies prescribed by physicians in his home town with only temporary benefit. He was a heavy eater, had some indigestion and was badly constipated. Eliminative organs all very sluggish, tongue heavily coated with a whitish-brown fur, breath foul, pyorrhœa, and was an inveterate tobacco chewer. This also looked to me like a case of auto-toxemia with local manifestations, the psoriasis being incidental. I treated him along those lines. I regulated his diet, purged him and speeded up the other eliminative organs, gave alkalies, removed the abscessed teeth and had him have a dentist treat the others. I also corrected the constipation, cut out tobacco and coffee, gave a tonic-digestant, gave cacodylate of soda, hypodermically, alternating with citrate of iron and nuclein solution. Locally, I used a soothing application. The violet-ray and the X-ray were applied practically over the entire body. Time of treatment, three months. Result, complete cure, the patient's skin taking on the hue and texture almost of youth.

Case 3.—This patient had an eczema which affected the scrotum, perineum and anus, causing much torture. Case of several years' standing, and the various methods of treatment were without permanent value. There was nerve instability and the man suffered with attacks of hay fever, indigestion, constipation, etc. Gave eliminants and stomachic tonics, alkalines (as there was acidosis), some soothing local applications, and short X-ray treatments. Results were beautiful, and the patient has remained cured two years.

Case 4.—Goitre in woman aged 64. Gland much enlarged, with high blood pressure, tachycardia, etc. In this case the heart symptoms and blood presure were relieved by treatment with high-frequency current and the X-ray, but the gland itself was but little reduced, even though I used the methods advised by the most approved authorities. I advised operation.

Case 5.—Epithelioma of face, near corner of the eye and on side of the nose in man aged 60. Merchant in another city. Place had been coming for over a year and he was apprehensive lest he lose his eyesight. Patient in fair physical condition. Gave heavy X-ray treatments at weekly intervals, with necessary protection, with perfect results and no injury to the eyesight. This patient has been well three years. In the treatment of numerous cases of skin cancer I have had some beautiful results, and in others the results were *nil*, or positively injurious. It seems we have no method to determine *a priori* just what the result of X-ray treatment may be in a given case. Usually, however, a few treatments will point the way.

Case 6.—Cervical adenitis in a tubercular young man, aged 17. Both sides of the neck were affected and the patient was in a run-down, anaemic condition, but no marked cough. I gave the usual line of tonics, such as iron, nux vomica, cod liver oil, etc., nutritious food, fresh air, sunlight and other hygienic measures, and used local X-ray treatments. One or two glands were suppurating. The result was prompt and satisfactory, with a complete disappearance of the enlargements and marked improvement in the general health and weight. I advised this patient to seek a high, dry climate, and he remains strong and well up to the present.

I will conclude my brief report of cases by saying that in the treatment of nervous and other diseases the field is broad and inviting, and the results obtained gratifying—especially in neurasthenia and functional diseases,—but, of course, always in connection with other approved lines of treatment—medicinal, surgical and hygienic,—and I would invite my confreres to a more careful consideration of the same.

SYPHILIS OF THE CIRCULATORY ORGANS.*

By H. H. HAZEN, M. D., Washington, D. C.

As pathologists point out, syphilis is primarily a disease of the blood vessels. This is true in all stages from the chancre to the gumma; a gumma is simply due to a breaking down of the tissues, because there is less resistance to the action of the Treponema.

Syphilis of the Heart.—It is becoming a matter not only of clinical but also of autopsy record that the heart is frequently involved in

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syphilis. It is probable that nearly fifty per-cent. of all syphilitic patients develop more or less serious cardiac lesions. These changes may be classified as follows: Pericarditis, myocarditis, endocarditis, valvular diseases, diseases of the coronary arteries, angina pectoris, cardiac aneurysm and heart block.

There are two types of pericardial syphilis, the "milk spots" and gummata, which extend from the heart muscle.

Years ago Grassman insisted that myocardial disturbances may occur early in the course of syphilis. Warthin has recently pointed out how frequent it is to find microscopic evidences of such lesions at autopsy. It is particularly to be noted that the heart muscle may be primarily invaded, that is, that the lesions do not start around blood vessels, but that they are due to the presence of organisms within the muscles.

It is well known that aortic insufficiency and aortic endocarditis are frequently associated with syphilis. This is usually an extension from aortic disease.

It is likewise well known that the coronary arteries are frequently diseased and that pseudo-anginal attacks may result. In fact, true angina in persons under 40 years of age is most frequently due to syphilis.

Quite a number of cases of heart block are caused by lues.

While aneurysm of the heart walls is unusual, still Brooks found it in three instances out of fifty autopsies on patients with syphilitic heart lesions.

Aortitis.—Syphilis is the one great cause of aortitis and a very large number of syphilitics, probably nearly one-half, develop aortic lesions. This disease not infrequently terminates in aneurism.

Peripheral Arteritis.—Peripheral arteritis due to syphilis is not especially common. In the literature there is much confusion between it and Raynaud's disease. Some cases of the latter are unquestionably due to lues.

Arterio-sclerosis and Hypertension.—The relationship of these diseases to syphilis is debatable, although most of us feel that cases in the young, without antecedent history of malaria, pneumonia, or scarlet fever, are most frequently syphilitic in origin.

Syphilis of the Veins.—The literature upon syphilitic phlebitis is extensive, although the disease is encountered none too frequently. In Hoffman's classical article, three forms were distinguished: The diffuse thickening of the vein, the nodose thickening, and the erythema nodosum syphiliticum. To these Hutchison has added a fourth form, that of a diffuse periphlebitis.

Blood Changes in Syphilis.—There is often a decrease in the number of the red blood cells and of the hemoglobin. Either a secondary or a pernicious type of anæmia may be simulated. The white blood cells may be increased, particularly during the secondary period. Treatment usually causes a marked increase in the number of small mononuclears. The eosinophiles are not increased.

Syphilis of the Spleen.—Wile has written the best recent article on splenic syphilis. He finds that during the primary and secondary stages enlargement occurs in about one-third of the cases. In late syphilis there may be found gummata, peri-splenitis, scars, or amyloid changes. In some instances splenic anæmia may be simulated.

Syphilis of the Lymph Nodes.—At the onset it should be clearly understood that various observers have demonstrated Treponemata in the lymph nodes, even before the chancre has become evident. In the point of diagnosis, the bilateral enlargement of certain groups of glands is important, particularly the epitrochlear, the occipital and the posterior cervical. Gummata of the glands are more common than is generally realized. Either one gland or a group of glands may be affected. They are most apt to be mistaken for tuberculosis, Hodgkin's disease, or lympho-sarcoma.

Congenital Syphilis.—Practically all of the diseases mentioned above may be found in the victim of congenital syphilis. However, one or two points must be emphasized. About 75 per cent. of the cases of early syphilis show a much enlarged spleen and this is frequently a valuable diagnostic point. The lymph glands are not so constantly enlarged as in the acquired type, but bilateral enlargement of the epitrochlears is common. There have been many who attributed melæna neonatorum to congenital syphilis, but this opinion has been overthrown.

Treatment.—In regard to treatment, there are two things to be remembered: First, that the patient is suffering from a dangerous infection, and, second, that he may already have some organs so seriously damaged that we can

not hope to repair them. In all cases, treatment should be administered by both the syphilographer and the internist. Even if we cannot repair damage already done, we may prevent more damage and, in addition, we can usually make the patient much more comfortable.

1621 *Connecticut Avenue.*

Clinical Reports.

INTESTINAL OBSTRUCTION—REPORT OF A CASE CAUSED BY TORSION OF THE MESENTERY.*

By GEORGE TULLY VAUGHAN, M. D.,
Washington, D. C.

I was requested to make a report of a case of intestinal obstruction. In looking over my cases I found a great many cases of intestinal obstruction, and it was rather difficult to decide which variety I would select. If I had taken the most common I would have taken the variety which we call adynamic ileus, where a patient's bowels are paralyzed after operation, etc. But I thought perhaps it would be just as well to invite your attention to a variety of intestinal obstruction that is not often recognized.

This patient, a colored man forty years of age, was admitted to the hospital with a history of having had trouble for five days. He was taken with severe pain in the bowels, swelling, and then a little later on, after three days of this, vomiting set in. When he came to the hospital his pulse was 65, weak and feeble. His temperature was 97.5. The abdomen was distended and tense, and dull on percussion. The leucocytes were 27,000. He had a history of having been operated upon two years before for we did not know what. There was a scar over the right rectus muscle. It was quite evident that he had intestinal obstruction; he had had no passage, and the vomiting and the swelling were enough on which to make a diagnosis. As to the nature of the obstruction or the cause of it, it was not quite so easy to say, but we had a pretty definite idea that it was due probably to the same condition for which the previous operation had been done, or something following the previous operation,—for example, bands or adhesions. I have seen quite a number of intestinal obstructions following operation (say, appendicitis) from bands or adhesions. Volvulus was also considered.

He was operated upon right away, under ether, through the scar in the right rectus muscle. One strong adhesion was found between the abdominal wall and the coil of bowel. This evidently had nothing to do with the obstruction; that is, the portion of bowel held by this adhesion was of full size. About a quart of fluid was found in the abdominal cavity. Almost the entire mass of small intestines was very much distended, swollen, red and purple in color. Several adhesions were found between the various coils. But none of them could account for the obstruction. You see the intestines filled up the abdominal cavity so that a good view of everything could not be obtained at first. In searching for the obstruction we found the mesentery twisted around more than an entire revolution, probably about once and a half around. Of course, that shut off the circulation in the bowel to a great extent and explained the whole thing. The whole mass of small intestines were turned around in the reverse direction and that unwound the mesentery.

The patient died before the operation was completed. The arteries were not examined. Thrombi were found in the veins. The appendix was found intact, so that the cause of the previous operation was not found.

I have had occasion to study this subject before. This is the first case of this kind I have seen for a number of years. Some thirteen or fourteen years ago I saw a case,—made a post-mortem examination upon a case that I was about to operate upon. That was the first case I had ever seen. I then searched the literature on the subject, and in all the literature I could get at the Surgeon-General's Library, I found twenty-one cases, including my own, in which there was torsion of the entire mesentery. There are lots of cases in which a small portion of the mesentery is twisted; that occurs in all cases of volvulus. In this history of twenty cases I found recorded, principally in French literature, in some of the cases the mesentery had been twisted more than two and

*Read before the Medical Society of Northern Virginia and the District of Columbia, at Washington, D. C., November 15, 1916.

a half times. This case of mine just reported had made more than one complete revolution.

The mortality is extremely high. Many of them were operated on for other things, not making the diagnosis beforehand. In fact, I do not know that anyone had made the diagnosis beforehand.

I had one case in which the mesentery was twisted—not the entire mesentery—and in which operation was followed by recovery. There is great danger after untwisting the mesentery. The patient began to vomit, vomiting bloody fluid, and he came very near drowning in this. He finally made a perfect recovery.

It is important to bear in mind that such a form of obstruction exists. I only know of one paper written since my own in 1902, and that was by some surgeon out in the West. These cases are often caused by hernia, which starts the trouble.

1718 *I. Street, N. W.*

DISCUSSION.

Dr. A. Barnes Hooe, Washington: Dr. Vaughan has brought out to me a new cause of obstruction of the bowel. I had never known of a case of mesenteric ileus, you might call it,—volvulus really.

There are a great many interesting points about obstruction of the bowels. A case was referred to me several years ago in which the doctor had made a diagnosis of obstruction of the bowel from lumbricoid worms. He was perfectly correct in his diagnosis. The child was seven years old and weighed only thirty-two pounds. On opening the abdomen a large portion of the bowel presented itself which I thought was a greatly distended colon. The bowel was so distended that it looked like a very thin piece of rubber tissue. The bowel was brought up and opened, and we got out a large bowl full of lumbricoid worms. I do not recall just how many, but there were several hundred. I found that the portion of bowel that I had opened, instead of being the colon. was the jejunum. This large mass of worms was removed, and I could then feel worms around in the stomach, large bowel and everywhere else. As the child was practically dead at the time, the wound was closed as quickly as possible. It did very nicely, and we put it on santonin and calomel, alternating with senna. It afterwards passed two hundred worms.

There is a point that Minor brought out several years ago in regard to obstruction, and I have noted it in several cases. He called attention to the fact that so often a few centimeters above the site of the obstruction there is a gangrenous portion of bowel that is very apt to be overlooked. Just after reading his article I had a case following appendicitis. I had operated on the case for appendicitis two years before, a bad drain case. At the operation for obstruction I found a band that had the ileum completely restricted. On removing the band I looked above, and about ten centimeters above I found that gangrenous patch that he had described. I think I would have overlooked that but for the fact I had read his paper about that time.

Some of the cases of obstruction are so plain that I do not see how it is possible to mistake them. Very recently I had a case of obstruction from a strangulated hernia, and it was just as plain as day. This man gave a history of having been treated. I saw him on Friday. He was taken sick on the Tuesday before that, and Wednesday started vomiting. He gave a history of having been treated for bilious indigestion. I do not know just what that is, but I expect he had it. There was a case where the man had never been examined. He said this doctor who had treated him had treated him for bilious indigestion without examining him. Fortunately, he recovered, but we had no hope that he would recover. In fact, we thought he would die on the table. He was pulseless, and his blood pressure was something like sixty.

Dr. William B. Carr, Washington: Dr. Hooe's remark that a case of obstruction should be easily diagnosed recalls a case that I saw at autopsy not long ago. I got the history from the doctor. The case was that of a child about seven years old. It had been treated seven or eight days by the doctor. Autopsy showed seven distinct intussusceptions of the bowel. The doctor told me the child had not passed any fecal matter for four or five days. Yet he had not made a diagnosis and no operative procedure had been undertaken. All the intussusceptions showed almost complete gangrene.

Proceedings of Societies, Etc.

ROANOKE ACADEMY OF MEDICINE.

Regular meeting, April 2, 1917, Dr. Ralph W. Brown presiding.

The two essayists scheduled for this date were detained by the exigencies of practice and Dr. H. E. Jones was asked to supply the scientific paper. He read a thesis entitled "A Review of Reflex, Physical, and Electron Diagnosis and Therapeutics." It showed much study, and while very different from the paper dealing with orthodox and routine medical matters, was upon subjects of importance to every practitioner. The trend of the discussion that followed showed not a little opposition to the views as set forth by the writer, and he was bombarded with questions by more than one doubting Thomas. To these questions he replied in good spirit and at some length, and explained as well as possible in his limited time the several points brought out. Drs. Slicer, Tompkins, Powell, L. Davis and Brown were among those taking part.

April 16, 1917.—Regular meeting called to order by Dr. Ralph Brown.

A clinical case, one of epithelioma of the eye, was shown by Dr. Brady, in which case Dr. Garrett had been concerned, and was invited by Dr. Brady to review the history. The eye had been enucleated, after which X-ray treatment had given very satisfactory results.

"The Symptoms and Treatment of Meningitis" was the subject selected by Dr. Littleton Davis. His paper showed care in its preparation, and was interesting from several points of view. It was discussed by Dr. H. E. Jones, who cited several cases with report of end results. Dr. A. Stone likewise made some remarks in this discussion.

Dr. Preston's paper on "Circulatory Failure" was exceedingly instructive. It was illustrated by large diagrams on the screen. He showed a number of X-ray plates, one especially of syphilitic aortitis being noteworthy. His comparison of the circulatory apparatus to the four-cylindered automobile engine was a felicitous one. Dr. Brady and Dr. H. E. Jones discussed it.

Twenty-one Fellows and no visitors present.

May 7, 1917.—Regular meeting, Dr. Brown in chair.

Dr. Brady announced that Dr. Geo. A. Stover and Dr. Paulus A. Irving, president and secretary, respectively, of the State Society, were present and moved the privilege of the floor. Carried.

Dr. A. P. Jones read a paper on "Dakin's Solution in Empyema," with report of seven cases. (This paper came in for a number of compliments, as heard on the outside.) Dr. Jones, it may be remarked, *en passant*, has somewhat recently become associated with Dr. H. H. Trout in the Jefferson Hospital. Dr. Powell discussed the subject, adding some points on its use in puerperal infection, cystitis, etc. Dr. Tront spoke of drainage in connection with its use. Dr. S. J. Gill added some remarks.

The president invited the visitors to speak. Dr. Stover responded, and related the progress of interest in component county societies. He was followed by Dr. Irving, who was asked many questions, amongst them some about the apparent conflict of duties as between the State Treasurer and the local treasurers in the collection of dues. Dr. Brady discussed the matter of collecting dues from men who are members of the State Society, but not of local society. It was stated that several matters of detail, as to this and other things, will be cleaned up at the next meeting of the State Society. Another one of the Fellows had a paper to present, but owing to the lateness of the hour and need of a conference with the visitors, he consented to defer it to the next meeting.

Thirty Fellows and two visitors present.

E. P. Tompkins, *Secretary.*

After adjournment the local committee of arrangements anent the October meeting of State Society, met with Drs. Stover and Irving for informal conference. The visitors had earlier in the day been shown the facilities in way of meeting hall, hotel accommodations, etc., and expressed themselves highly pleased with the outlook as being in every way conducive to a very satisfactory session. The hitherto lack of adequate hotel facilities has been a matter of some chagrin to the local profession, as for some years past we have wanted the State Society with us. But the truth is

that Roanoke is such a live town, such a busy place, attracting to it such a concourse of people, that the supply of facilities has had a hard time keeping up with the demand. New hotels have been built and others enlarged, but are kept filled as fast as finished. However the extensive additions to Hotel Roanoke in particular, which has been practically rebuilt, not to mention others whose space has been amplified, gives promise of relief of congestion for some time at least. It is a satisfaction to us to be able to make this announcement, and to say that the meeting in the last days of October is already a live topic with the doctors of Roanoke, many details having been already mapped out and plans formulated. We are prepared to give a rousing welcome, and hope every doctor in the State is preparing to come. We admit that Richmond, Norfolk and Washington, set a stiff pace, but we hope to measure up. It may be positively stated that ample hotel accommodations are assured. Hotel Roanoke alone promises 100 rooms available for the medical men.

A rather neat little piece of work was witnessed in a doctor's office recently. A child was brought in with a foreign body, supposed to be a lapel button advertising device, lodged in the throat. The mother stated she could see it at first, but her effort to recover it pushed it out of sight. The child's breathing was peculiar, like through a laryngeal tube. Being only 3 years old, no cooperation could be secured from the patient. A heavy electro-magnet was brought into use and the child's mouth forcibly brought to the point of the magnet. As soon as inserted, a click was heard; the child jerked his head back, the object flashed across several inches and clung to the magnet. It proved to be a "roofing cap," a tinned iron disk, cupped, such as is put under the head of a nail in fastening down felt roofing. The hole in center probably enabled the child to breathe, the cap being directly over the glottis.

E. P. T.

One eighth of the childern born in the United States, die before they are a year old.

The board bill for last year's babies was almost as great as the undertaker's bill for last year's babies.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 72.)

A Case of Vagotonia, Apparently Originating in the Nasal Accessory Sinuses.

By GEORGE FETTEROLF, M. D., Philadelphia, Pa.

Vagotonia can be defined briefly as a condition of excitement or high tonus of a group of nerves called the "extended vagus." The phrase "extended vagus" is applied to a nerve series which includes not only the pneumogastric, but also a group of nerves which functionate similarly to it. Antagonistic to the vagus group is the sympathetic, and there exists a condition of it called sympatheticotonia, which can be defined as a state of excitement of high tonus of the sympathetic system. In order to locate accurately the "extended vagus" and sympathetic systems, the writer reviews briefly some points in the anatomy of the nervous system.

In action the two groups, the autonomic and the sympathetic, are antagonistic, and it is generally conceded that all glands which possess ducts and all involuntary musculature receive a supply from both. Upon the maintenance of a proper balance between the two depends the normal functionating of the structures to which they go. If the autonomic supply is irritable, the organ will overfunctionate in one direction, and if the sympathetic is in a condition of hypertonus or excitement, the excess of action will be in the other.

As glands and muscles are the organs to which these impulses go, the result will be manifested by hyper- or hyposecretion on the one hand or by spasm or relaxation on the other.

The control of the entire vegetative system, both autonomic and sympathetic, is believed to lie in the cerebrospinal axis, where possibly a regulating center exists, and in the glands of internal secretion, the socalled endocrinous glands. This latter is quite well established for the sympathetic system, adrenin having been shown to act generally as a stimulator to the entire distribution of this group. For the autonomic system no drug has been found which acts uniformly upon all parts of it. The nearest approach to such a drug is atropin, which is a sedative to practically the entire

autonomic system, dilating the pupil, checking the flow of saliva and sweat, and relaxing contracted involuntary muscles.

Even more selective is pilocarpin, which has a powerful effect upon the salivary and sweat glands, producing over-secretion, and hence clearly to be regarded as a stimulator of part of this system.

Pilocarpin is known to be so reliable and constant a stimulator of the autonomic system that it is used in testing for the presence of vagotonia. One-twentieth to one-sixth grain is given hypodermically, and if the test is positive there will be noted salivation, lachrymation, sweating, cardiorespiration, erythema and hyperperistalsis, all these out of proportion to the size of the dose.

The symptoms of vagotonia in general are such as would be expected when the autonomic system is stimulated, and they represent activity of function at the terminal distribution of the nerves concerned.

There are many of these symptoms, but just a few are mentioned to indicate their general nature.

Cramp of the ciliary muscle, spasm of accommodation and widening of the palpebral fissure are examples of what would result from hypertonus of the fibers from the ciliary ganglion.

Salivation and congestion of and hypersecretion from the nose and nasopharynx would follow irritation transmitted through the otic, sphenopalatin and submaxillary ganglia.

To the vagus itself can be ascribed many phenomena, such as bronchial asthma, bronchial hypersecretion, laryngeal crises, bradycardia, gastric crises, hyperperistalsis and excessive gastric and intestinal secretion.

Through the sacral part of the autonomic system could pass impulses which would give rise to such conditions as spasm of the anal sphincter, hypersecretion from the intestine, dysmenorrhea, etc.

The blood picture shows an excess of eosinophiles.

The treatment of the condition is the same as that of any other secondary disease—viz., find if possible and eliminate a cause or focus, build up the health and give proper medication. The last factor, the medicinal treatment, can be managed on one of two principles, either administering a sedative for the autonomic system, or overcoming the tonus of the latter by giving a stimulator to its antagonist, the sympathetic system. This principle is illustrated notably by the successful treatment of spasmodic bronchial asthma, success being possible either by quieting the autonomic system with atropin or by stimulating the sympathetic by the local or hypodermic use of adrenin.

The writer cites a case in point:

A boy of twelve years, who had failed in health for five years and had an intermission or two of slight improvement. He presented many symptoms of autonomic tonus, and, in addition, had evident disease of his paranasal sinuses.

His impaired health dated back to an attack of measles at the age of seven, which left him with marked nasal discharge and expectoration, which have persisted ever since. There was at times a loose cough, which was productive of a thin, mucoid sputum, which never became yellow nor blood tinged. For a year there was profuse sweating at night, and his sleep was much disturbed by sneezing, coughing and expectorating. His adenoids were removed during this time, but the result was unfortunate, as immediately afterward his nasal discharge increased and he developed abscesses in both ears.

Three years after the appearance of the first symptoms, Dr. Stengel saw him. No cause for his symptoms was found, physical examination being negative. He was tested with pilocarpin for vagotonia by Dr. Hopkins, and the result was positive. He was put upon guaiacol carbonat and extract of belladonna, and some slight improvement resulted.

Two years later he returned to Dr. Stengel, a very sick little boy, having lost nine pounds in four weeks. At this time he was vomiting all his meals, a condition which soon changed to a weekly attack of severe abdominal pain, nausea and vomiting, which would last about two days. The vomitus was profuse and consisted almost entirely of mucus. With this there was profuse salivation, of a clear, watery character. Soon was added to these conditions frequent watery bowel movements. Medication was of little value, and the boy's condition was becoming a desperate one.

At this time the writer was requested to examine him, and aided by an X-ray examination a diagnosis of chronic suppuration in the posterior ethmoidal and sphenoidal cells of the left side was readily made. The surgical indications were clear, and he removed the posterior end of the middle turbinate and opened widely the offending cells.

Improvement was immediate and very striking, as almost at once his symptoms disappeared. In two months he gained ten pounds, and was a perfectly well boy except for some discharge from his nose. Later autogenous vaccines were given, and this was followed by almost total disappearance of the nasal mucus.

The interpretation of the case is this: The boy was one with a very unstable vegetative nervous system, and it has been observed that in such a state small stimuli can produce large reactions. The irritation which would cause such a condition of autonomic tonus may "arise from noxa in the form of bacterial toxins, as during or after acute infections, from drugs, or from the products of deranged metabolism, mechanical irritation, and so forth" (Hopkins).

There was present in this case a primary acute infection, measles, followed by prolonged chronic suppurative sinus disease, and we believe that the consequent toxemia and irritation were the exciting factors. For, when this was relieved, the widespread vagotonic symptoms disappeared so promptly as practically to bar accidental coincidence.

As far as the writer has been able to discover, the case is the first on record in which such a distinct entity as chronic sinus disease was presumably the exciting cause of such widespread vagotonic manifestations, and in which prompt disappearance of these symptoms followed relief of the local condition. By the free drainage of suppurating sinuses this patient was almost instantaneously relieved of salivation, cough, expectoration, severe abdominal pain, vomiting and diarrhea, for none of which symptoms a physical cause could be found.

As a sinus case *per se* there was nothing notable about it, as the diagnosis was easy and the treatment simple. The big feature is the field of observation and deduction such a case opens up. It does seem that many other conditions which are but vaguely understood may possibly become clarified when viewed as vagotonic or sympatheticotonic phenomena. For example: The treatment of bronchial asthma with adrenin or with atropin has been successful in many instances.

Noteworthy has been the nasal treatment by our colleague, Emil Mayer, Brettauer and others, of selected cases of dysmenorrhea.

Another fellow member, Greenfield Sluder, after painstaking study, has succeeded in relieving certain symptoms by treating the sphenopalatin ganglion.

These are but few of the conditions upon which some light may be shed. Undoubtedly, many others will suggest themselves as being based upon a derangement of visceral nerve supply. Should such prove to be the case, they will constitute a new group whose pathology can be described in definite terms.

DISCUSSION.

Dr. G. Hudson Makuen, Philadelphia: This most timely paper by Dr. Fetterolf is exceedingly interesting to me because it expresses very well and emphasizes again the close relationship which exists between our own specialty and that of neurology and general medicine.

Dr. J. Gordon Wilson, Chicago: The advantages offered by the supporters of the vagotonic hypothesis are that it offers a plausible interpretation and suggests a rational treatment of certain types of neurosis. As it deals so largely with the vagus nerve, the nerve which innervates so many of the parts we specialize in, it is incumbent on us to learn on what basis this hypothesis rests.

Eppinger and Hess, whose statement is authoritative, state that "vagotonia is a functional increase of tone in the autonomic system, which permits stimuli to act more readily on it," and regard it as a state of stimulation of the vagus. The vagotonic disposition is abnormal irritability. "Its cause is to be sought in disturbance of internal secretion, and it is present if we have increased sensitivity to pilocarpin."

If vagotonia is an increase of tonus in the autonomic system, it will be well here to inquire what is the conception of tonus that is usually accepted. Tonus is a difficult thing to

define—it seems at times so intangible. There are three sets of phenomena to which physiologists usually apply this term.

1. Prolonged contraction of smooth muscle which is automatically independent of impulses from nerve centers.

2. A state of tension shown by skeletal muscles under certain conditions which in some way is dependent on nerve stimuli, for it disappears if these be cut.

3. State of some nerve centers which appear to give off constantly nerve impulses apart from the receipt of messages from other nerves—e. g., the respiratory nerve center.

It is with the last of these that we are chiefly concerned.

Dr. Fetterolf has sufficiently referred to the anatomy of the sympathetic nervous system ("vegetative system") and its two divisions, the autonomic nervous system (vagus group), and sympathetic nervous system proper. This division has been long recognized and acknowledged chiefly through the work of the English physiologist, Langley.

I do not intend to discuss whether or not the supporters of this theory have sufficiently differentiated between stimulation of a nerve and nerve tonus. I wish, rather, to call your attention to what is one of the fundamental propositions on which this vagotonic hypothesis is built. Eppinger and Hess say that tonus in the vegetative system is due to the equilibrium of two impulses, one from the autonomic and one from the sympathetic system, caused by two hormones antagonistic to each other. Hormones, as you are aware, are chemical messengers by means of which the activity of certain organs is coordinated with that of others; produced in one organ, they are carried to another, which they affect, even when present in very small amount. The supporters of the vagotonic theory assume as a fundamental fact that sympathetic tonus is produced by adrenalin, and to get a corresponding hormone for the autonomic system, they further assume, without any evidence, the existence of an unknown hormone akin to pilocarpin. According to them, these two hormones, the real and the hypothetic, acting in antagonism to each other, produce normally a state of equilibrium. A departure from this state of equilibrium constitutes in the autonomic system vagotonia.

The first point I would make is that in their attempt to establish the equilibrium essential to their hypothesis, they assume as proved beyond doubt that adrenalin acts to produce tonus. Most recent investigations appear to show that adrenalin does not produce tonus in the sympathetic system.

To get over the difficulty of the assumption of an unknown hormone to act on the autonomic system, they assume that this hypothetic hormone will act like pilocarpin. Pilocarpin is a chemical body which acts directly on the cell membrane and produces morphologic changes in the cell. It seems to me that there are serious objections to a hypothesis which demands that we grant to it for a basis an unknown hormone comparable in action to a chemical body. It would, therefore, appear that the fundamental basis on which this hypothesis is built is not generally accepted, and is open to very serious objections.

Again, it is assumed that the glands of internal secretion, the endocrine glands, control the sympathetic system, and that they produce and stimulate the tonus of the vegetative system. This appears to me to be an assumption beyond the point we are justified in going. Experiments with these glands, such as feeding with these glands and removal of these glands (e. g., pituitary and thyroid), show that their action is not so restricted, but that they affect the growth of the body cells. It would be more correct to say that it is generally accepted that the endocrine glands act on tissue metabolism, and so indirectly affect the condition of the nerve cell.

There might be quoted other examples of the unreliability or the doubtfulness of the assumptions demanded by this hypothesis. Equally unreliable appear to be some of the applications of the hypothesis. It is stated (Eppinger and Hess) that "the stomach dilates actively in proportion to the degree of filling, thus causing the muscular elements to cover the contents closely. Tonus is, therefore, a resistance to filling." The meaning here is not quite clear. The two consecutive sentences do not fit in unless one lays emphasis on the "resistance to filling." The meaning appears to be that as the filling increases so does the tonus. We find that experimental evidence does not bear out the statement that tonus

varies in proportion to the degree of filling. Tonus can only be measured by the tension of the muscle, and Sherrington has shown that the muscle wall of the living stomach can increase from an one hundred cubic centimeter posture to a five hundred cubic centimeter posture without change of tension. Also the reverse of this holds, for there may be loss of three hundred cubic centimeters without fall of pressure.

Vagotonia is a difficult subject to discuss, because it is based on the physiology of the sympathetic system and of the endocrine glands, much of which is unknown and much of which is speculative. The subject of the action of the sympathetic system in health and disease is a very important one, and if "vagotonia" has directed the attention of the clinician to this very important subject, it has served an excellent purpose. When from experience we find that atropin or pilocarpin is of use in diseases associated with the sympathetic or internal secretive system, we are justified in using them, but to build a system of medicine on so slim a basis as the clinical use of drugs is to court disaster.

In concluding, let me quote the words of Elliott, one of the leading investigators of the glands of internal secretion: "Medicine owes no debt of gratitude to those who teach to her theories without proof."

Dr. Thomas Hubbard, Toledo: I am surprised Dr. Fetterolf did not include esophageal spasm in the same category as bronchial spasm. I would include also the globus hystericus, the various types of esophagismus, and also cardiac spasm.

Dr. Emil Mayer, New York City: It seems to me that we have with all this entirely wandered from the question of vagotonia pure and simple. We have to explain some of the things we have not understood, as, for instance, the effect in treating for dysmenorrhea, as mentioned by the speaker. Above all, the immensely practical value in that is to always remember that when we have done anything surgical for our patients, our efforts must cease, we must not be surprised if the patient does not get well, and we must not put them down as being nasal hypochondriacs.

I have a case in mind of a gentleman who came to consult me recently. He had been having an ethmoiditis. The operation on his nose had been very properly and carefully done, but he was still having terrific headaches. He was one of those men who was determined to find out what the trouble was, and he was sent to me. I told him that so far as the nose was concerned, there was nothing to do for him surgically. He said that he was still having the discharge and still having the headaches. A vaccin of his secretion had been made, and he had received injections, but nothing had helped him. I noticed his tongue was very much furrowed, and inquired very carefully into the question as to whether he had syphilis. He said, "No;" he had absolutely no knowledge of it. A Wassermann test was made which proved negative. He even brought his sister to me, and she submitted to a most careful examination, and there was nothing found. I sent him to a dermatologist, and he said it was probably a case of hereditary syphilis, and he advised salvarsan and mercurial injections. The patient has now become entirely well, and as soon as he has any symptoms, a mercurial injection always makes him well.

I quote this case because it seems to have a marked connection with the subject at hand, and to show that we must remember that a patient has something else besides nose and throat.

Dr. Joseph L. Goodale, Boston: In view of what we know takes place in a child who is weaned and that which takes place also in conditions of asthma and in other anaphylactic conditions, this may possibly be an indication of the underlying identity of these various conditions.

Dr. G. Hudson Makeun, Philadelphia: I am particularly pleased that Dr. Fetterolf should have brought this subject before the meeting, because I have long been of the opinion that we as laryngologists and otologists have been giving rather too much attention to the surgical side of our specialty, to the exclusion, or perhaps neglect, of the neurologic and medical side of it. I, therefore, think that this discussion is very timely and very important. I am of the opinion that in the near future our work will deal perhaps less with surgery and more with the general phase of the subject.

Dr. George Fetterolf, Philadelphia (closing

the discussion): In answer to Dr. Wilson, I would like to quote the reply to what was said about four years ago by Dr. Meltzer with regard to a certain criticism, that a subject was five per cent. fact and ninety-five per cent. theory, but that a working hypothesis is better than none.

In answer to Dr. Hubbard, I would say that I have been busy during the last two months cutting a sixty-page paper down to thirteen pages. There are a great many phases that I have not been able to touch upon, and a great many symptoms and signs that I did not have the space to take up.

If anyone is interested in this, the most recent things which have appeared are a brochure by Eppinger and Hess, translated by Jeliffe and Kraus, and an exceedingly able article by Barton, which appeared in the Transactions of the Association of American Physicians in 1905.

Sarcoma of the Nose—Report of a Fatal Case, With Metastases in the Cervical Glands and in the Brain.

J. PAYSON CLARK, M. D., Boston.

A female, sixty-four years old, noticed a swelling on the nose for four months. When first seen by the writer it was about the size of a small marble. For a month there had been a slight bloody discharge from the nose. There was a dark purplish tumor visible on the outer wall of the left nostril just above the vestibule. The growth was completely removed. The microscopic diagnosis was either carcinoma or sarcoma. In two months a gland was felt under the left side of the jaw. This was excised and proved to be a spindle cell sarcoma, thus determining the nature of the original growth. Seven weeks later a gland was palpable under the left sternomastoid muscle. Coley treatment was tried, without apparent success, for two months. At the end of this time a small recurrence was found in the nose and removed, and a month later a complete glandular dissection of the left side of the neck was successfuly done. Three weeks later the patient developed mental symptoms, incoherent talk, convulsive attacks, motor aphasia and dysphagia. At times she was very drowsy, and then restless and irritable. She soon lost power of locomotion and control of sphincters. She became very comatose and hard to rouse, and ate practically nothing for the last ten days of life. An autopsy showed three metastases in the brain.

The most interesting features of this case are the metastases in the brain and cervical glands. The writer could find but eight reported cases of sarcoma of the nose in which metastases were said to have occurred. Six of these cases are somewhat doubtful, leaving only two (besides the case here reported) in which metastases occurred in the cervical glands, and only one other case in which they occurred in the brain.

DISCUSSION.

Dr. Robert G. Myles, New York City: The question of sarcoma of the nose and accessory sinuses is an interesting one to me because of the optimistic feeling I have with regard to it. A few years ago I had two cases of sarcoma in the frontal sinuses, and by a complete operation and removing the bone extensively and all the periosteum, I was able to get a good result. One of the cases had invaded the orbit. It is now more than seven years, and neither of them has recurred.

Twelve to fifeeen years ago I reported a case where the whole of the nose was involved, in which everything was removed very deeply, and that has not recurred.

About two years ago I had a case of extensive carcinoma, which first appeared to be sarcoma, involving the external wall and ethmoid, in which everything was removed—the antrum freely taken away with extensive removal of the periosteum, That patient, to my surprise, has had no recurrence, and since that time has developed remarkably physically and in every way. So that I don't know what it is that causes such dread of these cases. Personally, I think the good results must be something more in relation to the periosteum than to the bone. If that is thoroughly removed, even if you have to leave the bone, as you do especially when one of the orbital plates is involved, there is still a lot of hope. I think we ought not to let these cases go on. I remember the case of a woman who had sarcoma of the septum, and for the reason that we did not remove her septum to the cribriform plate, she died of metastases in the brain. With that idea of conservatism we

did not remove the whole septum, and I think it was a mistake.

Dr. J. Payson Clark, Boston (closing the discussion): Of course, we have all seen a great many cases of sarcoma which have gotten well after thorough removal, but in this case of mine I feel that there is no question but that the glands of the neck and metastases in the brain had already occurred before I operated. I am led to that view from the fact that, apart from the slight recurrence in the nose, there was nothing to suggest the probability of extension of the growth. This was not a direct extension of the growth to the brain, but the growth was carried through the lymphatics.

(*To be continued.*)

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

The Development of Intelligence in Children. (The Binet-Simon Scale). By ALFRED BINET and TH. SIMON. Translated by ELIZABETH S. KITE. Publications of The Training School, at Vineland, N. J.

The publishers and the translator are to be congratulated upon the presentation in English of a work which is making an epoch in the diagnosis of mental status in normal and defective individuals. The book is a collection of individual articles, published by the two authors since 1905. Up to 1911, they published five such articles. Taken in chronological order, they show the progressive manner with which the authors developed their own ideas on the difficult subject of intelligence; also how they arrived at the practical application of their views. First, they consider the necessity of establishing a scientific diagnosis of intelligence. In the second chapter they discuss the methods for the diagnosis. The third chapter is taken up with the practical application of the methods. In the fourth chapter the development of intelligence is discussed. Finally, in the last chapter, we find the newer investigations on the intellectual level in school children. The wealth of material is striking. The various tests and the grouping of the results denote an extraordinary analytic mind of the authors. The work is most useful to the teacher, psychologist, sociologist and the psychiatrist. The English rendition is excellent.

ALFRED GORDON, M. D.

The Intelligence of the Feeble-Minded. By ALFRED BINET and TH. SIMON. Translated by ELIZABETH S. KITE. Publications of The Training School at Vineland, N. J.

The present volume is supplementary to the work on Development of Intelligence. Here the authors study feeble-mindedness from the following phenomena: Character, attention, effort, motor ability, writing, intelligence of perception, sense of pain, association of ideas, intellectual activity, arithmetical faculty, reasoning, suggestibility and docility. In another chapter the authors discuss the language of the feeble-minded and, in order to make it clear, they study the function of language as a sign of human intelligence, the evolution of language, and finally, the relation of language to thought. In the last chapter we find a parallel study of Feeble-Mindedness and Dementia. It is, therefore, evident that feeble-mindedness has been studied by the authors in a most thorough and scientific manner. The application of their measuring scale has been most fruitful. The work is monumental because of its completeness and because of scientific methods applied accurately before deductions are drawn. What was said of the translation of the first volume can be repeated here.

ALFRED GORDON, M. D.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. By leading members of the medical profession throughout the world. Edited by H. R. M. LANDIS, M. D., Philadelphia, with a number of prominent collaborators. Volume 1. 27th series, 1917. Philadelphia and London. J. B. Lippincott. Cloth. 8 vo. 305 pages. Price, $2.

The Practical Medicine Series. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of CHARLES L. MIX, A. M., M. D., Professor of Physical Diagnosis, Northwestern University Medical School, Chicago. Volume I. General Medicine. Edited by FRANK BILLINGS, M. S., M. D., of Rush Medical College, Chicago, assisted by BURRELL O. RAULSTON, A. B., M. D. Series 1917. Chicago. The Year Book Publishers. Cloth. 12mo. 383 pages. Price, $1.50; series of 10 volumes, $10.

Both of the above named series, which are illustrated and well-indexed as to subjects and authors, are so well known, that we feel it is

hardly necessary to do more than announce the issuance of their first numbers. As their subjects are confined to no one branch, they furnish much interesting reading for both the general practitioner and specialist.

Editorial.

Peroneal Palsy of Obstetric Origin.

The obstetricians now and then meet with cases in which symptoms referable to peripheral nerves or spinal cord are observed. When during puerperium the patient is taken with fever and then gradually or rapidly a paralysis of the lower limbs with or without pain develops, the condition has certainly a septic source and transverse myelitis should be thought of. But infection may also attack peripheral nerve trunks and affect either one individual nerve or several nerves. In the majority of cases, however, trauma is the direct factor in localized nerve disorders following confinement. Anatomical arrangements show conclusively that such accidents are possible. The nerve involvement during puerperium may be *slight* or *pronounced*. The first is usually transitory and it is due to a special autointoxication associated probably with the process of involution of the tissues of the genital apparatus after delivery. The lumbar plexus is the point of predilection, and as the neuritic symptoms are here confined to the territory supplied by the lumbar plexus, trauma could not be taken into account in view of the fact that only the branches of the sacral plexus are exposed during the passage of the head of the foetus or forceps delivery. This *slight* form of obstetrical neuritis was particularly studied by Leopold Mayer, of Copenhagen. He observed it in 1.7 per cent. of 1,000 confinements. Bauch found the condition present in 4.7 per cent. (*Zeitschrift f. Geburtshulfe u. Gynecol.*, 1906, p. 196). By far more important from a practical standpoint is the other form of neuritis. It is an isolated neuritis confined to one individual nerve-trunk and presenting pronounced motor and sensory manifestations of a serious character, which are persistent and last for months or years. Even if the individual recovers, some traces of the old affection remain either in the form of some tenderness and a special sensitiveness to cold and changes of temperature, or else in the form of a weakness of a group of muscles, etc. Among all the nerves of the lower extremities the peroneal, or external popliteal, nerve is the most frequently affected. If we refer to the anatomy of this nerve, we find that it takes its origin from the fourth and fifth lumbar and first sacral root, but particularly from the trunk formed by the union of the smallest part of the fourth and the entire fifth lumbar nerves. This trunk is called the lumbo-sacral cord. The latter at its formation is situated on the ala of the sacrum under cover of the psoas. It descends into the pelvis and crosses the anterior border of the ala of the sacrum; otherwise speaking, it passes over the brim of the pelvis or over the sharp border of the true pelvis. It stands to reason that a protracted labor with the head pressing unduly against the brim of the pelvis, or else forceps, are apt to injure the exposed lumbo-sacral cord, hence the neuritis of the peroneal nerve.

The subject of nerve involvement during puerperium presents a certain importance from a practical standpoint, as a neuritis may be confounded with a phlebitis. A failure in recognizing the true condition may lead to errors of treatment. When a neuritis is taken for a phlebitis, it means prolonged immobilization of the limb with subsequent muscular atrophy and loss of power. When a phlebitis is taken for a neuritis, it means mobilization of the limb, electrization and massage of its muscles, which is a dangerous procedure as a small clot may become detached from the walls of the inflamed vein and be driven to the heart and lungs.

A very careful examination is essential: a pain in the limb in puerperal patients does not always mean a pure neuritis, and a somewhat increased size of the limb does not always imply a phlebitis. Each of these affections has its typical features. A diagnostic error is inevitably followed by a therapeutic error and sometimes by very regrettable results.

ALFRED GORDON, *M. D.*

Organizing Medical Men.

In the *Official Bulletin* of May 11, issued daily under order of President Wilson by the

Committee on Public Information, we note that:

At a recent meeting of the Council of National Defense the council, at the request of Dr. Franklin Martin, Chicago, chairman of the committee in charge of medical activities, authorized the appointment of a general medical board to cooperate with him in coordinating the civilian and military medical forces and advising regarding the fundamental problems of national defense.

The committee of which Dr. Martin is chairman and Dr. F. F. Simpson, of Pittsburg, is vice chairman, is as follows: Dr. Franklin Martin, member of the advisory commission, Council of National Defense, chairman; Dr. F. F. Simpson, chief of the medical section, Council of National Defense, vice chairman: Surg. Gen. William C. Gorgas, U. S. Army; Surg. Gen. William C. Braisted, U. S. Navy; Surg. Gen. Rupert Blue, U. S. Public Health Service, president American Medical Association; Col. Jefferson R. Kean, director of military relief, American Red Cross; Dr. William H. Welch, professor of pathology, Johns Hopkins University, Baltimore, Md.; Dr. Victor C. Vaughan, dean of University of Michigan, Ann Arbor, Mich.; Dr. Richard P. Strong, professor of tropical medicine, Harvard University, Boston; Dr. Edward Martin, professor of surgery, University of Pennsylvania, Philadelphia; Dr. George H. Simmons, editor Journal of the American Medical Association, Chicago; Dr. Joseph M. Flint, professor of surgery and dean, Yale University, New Haven, Conn.; Dr. Stuart McGuire, professor of surgery, Medical College of Virginia, Richmond, Va.; Dr. John Young Brown, professor of surgery, University of Missouri, St. Louis, Mo.; Dr. Charles H. Mayo, president-elect American Medical Association, Rochester, Minn.; Dr. Thomas Huntington, professor of surgery, University of California, San Francisco; Dr. H. A. Royster, president the Southern Medical Association, Raleigh, N. C.; Dr. Charles H. Peck, professor of surgery, University of New York, New York City; Dr. Winford Smith, superintendent Johns Hopkins Hospital, Baltimore, Md.; Dr. William J. Mayo, Rochester, Minn.

With regard to the organization of medical men, we are informed that the need for surgeons in the army is greater than supposed by many, as not only will a large number be needed to care for the army to be raised in this country by conscription, but there is imperative need in France at this time for surgeons to attend the large number of French and British wounded. If you have not yet volunteered, now is the time to decide whether you are more needed at home or in the service of your country.

The Montgomery County (Va.) Medical Society

Held a meeting May 1, and elected the following officers for the ensuing year: President, Dr. J. C. King, Radford; vice-presidents, Drs. W. W. Rangeley, Christiansburg, and J. A. Noblin, East Radford; secretary-treasurer, Dr. A. M. Showalter, Cambria (re-elected). It was decided at this meeting to offer the united and individual services of the members to the State and national military interests and such report was made to the Committee on Medical Preparedness for the State of Virginia. It was further decided to have semi-annual instead of quarterly meetings, and to have a scientific program at the next meeting in October, this to be arranged by the officers of the Society. The May meeting was the best since the organization of the Society and several visitors were present. This Society has an active membership of twenty-four of the thirty doctors in the County.

The Medical Society of Northern Virginia and the District of Columbia

Held its regular semi-annual meeting in Warrenton, Va., May 16, under the presidency of Dr. H. A. Fowler, Washington, D. C. The meeting was both interesting and pleasant and several instructive papers were read and discussed. The election of officers for the ensuing year was as follows: President, Dr. William I. Robey, Herndon, Va.; vice-presidents, Drs. J. Russell Verbrycke, Washington, D. C., and J. E. Knight, Bristersburg, Va.; treasurer, Dr. Robert Scott Lamb, Washington, D. C. Drs. Thomas A. Groover and Joseph D. Rogers, both of Washington, D. C., were re-elected re-

cording and corresponding secretaries, respectively.

The Albemarle County (Va.) Medical Society

Has just been reorganized by a meeting of doctors in Charlottesville, and it was decided to have the next meeting June 4, at which time Dr. H. S. Hedges, of Charlottesville, will read a paper on "The Vaccines." New officers of the Society are: President, Dr. E. M. Magruder; vice-president, Dr. William D. Macon, and secretary-treasurer, Dr. Frank C. McCue, all of Charlottesville.

Dr. John H. Ayres,

Accomac, Va., has been appointed by Governor Stuart as a member of the State Board of Medical Examiners, to succeed Dr. J. N. Barney, who resigned to accept a position with the medical reserve Corps of the U. S. Army, and is now stationed at Essington, Pa. Dr. Ayres will serve until April 1, 1918.

Dr. W. Reid Putney,

Formerly of the Virginia State Epileptic Colony and Colony for Feeble-Minded, Lynchburg, has resigned to become Medical Director of Otterburn Springs Sanatorium, Amelia, Va. This sanatorium is to be for the treatment of nervous and mental diseases and addiction cases, and is to be opened very shortly.

Dr. H. A. Brady,

Recently of Danville, Va., has moved to Beckley, W. Va., where he is associated with Dr. J. E. Coleman at the Beckley Hospital, as interne and pathologist.

Married—

Dr. Coleman Bernard Ransone, until recently of Port Haywood, Va., and Miss Natalie Sterling Neblett, South Hill, Va., May 15. Dr. Ransone has just passed the naval examination and will be stationed in Washington for the present.

Milk Depot for Babies.

The Federation of Mothers' Clubs, with the cooperation of the City Health Department and Nurses' Settlement, has planned for the opening of a milk distribution station in this city for the summer months, beginning June 1. This movement is expected to do much for the reduction of infant mortality. The city will provide a nurse to assist in the preparation and dispensing of milk to the indigent. A nominal charge will be amde those able to pay but who are not sufficiently skilled to carry out the doctor's orders and wish to avail themselves of the expert services of nurses at the milk distribution station. It is hoped to establish other stations later.

The Medical College of Virginia,

Richmond, will have its closing exercises June 3, 4 and 5. The banquet, which has been a regular feature of the program, will be eliminated. There are 178 members of the graduating classes—121 in the medical, 26 in the dental and 31 in the pharmaceutical departments. Fifteen members of the senior medical class will not be present, having been allowed to leave college last month to enter the medical service of the navy. Nine of these were assigned to the Naval Hospital at Norfolk and six to the one at Washington. D. C.

The Alumni Society, Dr. A. L. Tynes, of Staunton, president, will meet at 8.30 p. m., Monday the 4th and hear addresses by prominent men, after which there will be a smoker. The business meeting of the Society will be on Tuesday, the 5th, at 10 a. m. Instead of the clinics usually held after this meeting, there will be talks on war that the members may learn what is expected of physicians, dentists and pharmacists during the time of war. Rabbi E. N. Calisch, of this city, will deliver the address at the final exercises at the City Auditorium, that evening.

Dr. Edward J. Bancroft,

Formerly of Dante, Va., has just located at Critz, Patrick County, Va., for the practice of his profession.

American Red Cross Units Ordered Abroad.

Five Amreican Red Cross units, comprising 1,210 surgeons and nurses, have been ordered to duty at once at the French front. They are as follows: Harvard University Medical School, Dr. Harvey Cushing, physician; Presbyterian Hospital, New York, Dr. George E. Brewer; Philadelphia General Hospital, Dr. Richard H. Harte; Northwestern University Medical School, Chicago, Dr. Frederic Besley; Washington University Medical School,

Dr. Fred T. Murphy. The unit in charge of Dr. George W. Crile, Cleveland, O., including 242 persons, has landed in England and is ready to proceed to France. This was the first ordered abroad.

The American Gynecological Society

Will hold its forty-second annual meeting in Pittsburgh, Pa., May 31 to June 2, Dr. Frank Farrow Simpson, of that city, presiding. The secretary is Dr. George Gray Ward, Jr., of New York City.

Dr. J. L. McSparran,

Graham, Va., is booked to sail for Japan August 21, to be a medical missionary under the auspices of the Episcopal church.

Dr. F. W. Lewis, Jr.,

Recently of New York, having enlisted in the navy, is on a short visit to his old home at Morattico, Va.

Rockingham Committee.

Members of the Rockingham County, Va., auxiliary of the medical defense committee are Dr. T. C. Firebaugh, Harrisonburg, chairman; Drs. Lunsford H. Lewis, Elkton; J. E. Lincoln, Lacey Spring; C. H. Rolston, Mt. Clinton, and J. H. Deyerle, Harrisonburg.

Dr. Charles Morris Hawes

Has been appointed in charge of the eye, ear, nose and throat department of the Chesapeake and Ohio Hospital at Huntington, W. Va.

Dr. George Morris Piersol,

President of the American Medical Editors' Association, has been appointed visiting physician to the Philadelphia General Hospital, *vice* Dr. Frederick P. Henry.

American Medical Association.

The sixty-eighth annual meeting of the Association is to be held in New York City, June 4-8, under the presidency of Surgeon-General Rupert Blue, of the U. S. Public Health Service. Although the Delegates will meet on Monday, the 4th, at 10 a. m., the general meeting will not be called to order until the evening of the 5th. The section meetings will begin the following morning at 9 a. m. Admission tickets to the many clinics, demonstrations and exhibits, incorporated in the Clinical Sessions program, will be issued only to members and guests who register and make application. In spite of the large number of hotels in New York, it might not be amiss to make reservation of quarters in advance. Rates are from $2 a day, up. Hotel Astor is general headquarters for the Association.

Medical Recruits.

Dr. Franklin Martin, of the Council of National Defense, at the request of the Surgeon-General of the Army, urges that all medical men take notice that officers of the Medical Reserve Corps are being transferred to the Medical Officers' Reserve Corps, and that it is necessary upon accepting the new commission, for each man to again take the oath.

Dr. J. William Ebert,

Lutherville, Md., visited his old home, Winchester, Va., this month.

Dr. and Mrs. W. Lowndes Peple,

Of this city, were recent visitors at The Chamberlin, Old Point, Va.

Dr. and Mrs. John E. Brown

Have returned to their home in Columbus, O., after a stay of some time at Old Point, Va. On their return home, they stopped for a visit in Washington, D. C.

Medical Society of the State of North Carolina.

At the annual meeting of the Society held in Asheville, last month, Dr. Chas. O'H. Laughinghouse, of Greenville, presiding, Pinehurst was selected for the next place of meeting and the following officers were elected: President, Dr. I. W. Faison, Charlotte; vice-presidents, Drs. Wm. deB. MacNider, Chapel Hill, Jos. B. Greene, Asheville, and Benj. F. Royal, Morehead City; secretary, Dr. Benj. K. Hays, Oxford, and treasurer, Dr. W. M. Jones, Greensboro.

Patriotic Hopewell Physicians.

Drs. R. B. Blackwell, C. B. Ransone, and J. S. Yohannon, of Hopewell, Va., have gone into the navy. Dr. C. W. Waters joined the army and is stationed at Fortress Monroe. Several

more of the younger medical men are ready to follow the colors in the army.

Medical Officers On Duty With National Guard of Virginia.

The following medical officers, National Guard of Virginia, are on duty: With the Second Regiment, Major Adam T. Finch and Lieutenants James W. Knepp, John McGuire and Geo. F. Holler; with the Fourth Regiment, Major Israel Brown, Captains Herbert R. Drewry and Charles C. Smith, and Lieutenant Thomas V. Williamson.

Dr. W. A. Brumfield,

Who has recently assumed his duties as Assistant State Health Commissioner, the middle of this month addressed students of the Fredericksburg State Normal School on the necessity of teachers assuming the initiative in eliminating certain prevalent diseases in rural communities.

Dr. and Mrs. R. A. Martin,

Petersburg, Va., were week-end visitors in Lawrenceville, Va., the middle of May.

Dr. W. J. Chewning,

The Plains, Va., has passed the examinations for the regular army, and notifies us that he has received his commission as captain.

The New Orleans Medical and Surgical Journal

Was, at the recent meeting of the Louisiana State Medical Society, selected as its official organ for the next three years. This journal has for many years been recognized as one of the most representative of the Southern medical journals and this action of the Society seems most befitting.

The American Therapeutic Society

Will hold its annual meeting in New York, June 1 and 2, under the presidency of Dr. J. N. Hall, Denver, Colo. Dr. Lewis H. Taylor, Washington, D. C., is secretary.

Dr. D. L. Harrell,

Suffolk, Va., with a party of friends, spent a few days early this month at the Deer Lodge in Dismal Swamp.

Dr. Fred D. Brent,

Heathsville, Va., who is enrolled on the medical reserve corps of the Navy, was in Richmond early in the month on business in regard to this position.

Dr. John A. Owen,

Of Turbeville, Va., was a recent visitor in Farmville, Va.

Medical Census of Virginia Probable.

During the war, physicians are needed in both the government service and civil life, with equal importance. In order to ascertain the number of medical men in the State and where they can best be used, it is likely that a medical census will shortly be taken in this State. It has come to the attention of the Virginia branch of American Physicians on Medical Preparedness that, owing to enlistments from various points in the State, there are some localities really in need of physicians. In order that these places may be taken care of and that the requirements of the government for physicians may be satisfied, the census is believed by the council to be necessary. We have heard, though not authoritatively, that Virginia has not yet supplied half of her quota of physicians for the army.

Transferred From Ft. Myer to Army Medical School.

First Lieutenants Howard Hume and Arthur Zinkhan, both of Washington, D. C., have been relieved from duty with the Medical Officers' Reserve Corps at Fort Myer, Va., and ordered to report to the commandant at the Army Medical School, Washington, D. C., for instruction.

Dr. J. E. Warinner, Jr.,

Has been appointed instructor of the first aid class in Highland Park, this city.

Dr. and Mrs. R. C. Fravel,

Of this city, were visitors to New York early in May.

The State Board of Medical Examiners of Virginia

Will hold its next semi-annual examinations in this city, June 19-22. Dr. J. W. Preston, Roanoke, Va., is secretary and Dr. R. S. Martin, Stuart, Va., president.

Promotions in Public Health Service.

Among the recent promotions in the U. S. Public Health Service of doctors well known in this State were noted Passed Asst. Surg. Wade H. Frost to Surgeon, and Asst. Surg. Harry Fletcher White to the commission of Passed Assistant Surgeon. Both of these doctors were graduates from Virginia medical schools.

Hospital for Sick Babies.

It has been planned to establish a hopsital for the care and treatment of sick babies in this city very shortly. It will be placed at the city farm or some other convenient place to be chosen by the Administrative Board.

Lt. Walter A. Newman, M. R. C.,

Formerly of Manassas, Va., is in charge of the board for the appointment of officers in the Medical Officers' Reserve Corps, at Ft. Caswell, N. C.

Dr. and Mrs. M. L. Anderson

Have returned to their home in this city, after a visit to The Chamberlin, Old Point,

Dr. C. E. Martin,

North Emporia, Va., as a representative of the Odd Fellows of that place, attended the convention of the order in Bristol, Va.-Tenn., this month.

Increase in Red Cross Chapters.

Inspired by war patriotism, the number of Red Cross chapters in the United States has been more than doubled in the last three months. More new chapters were formed in April than existed in the whole country last July. The total nubber of Red Cross chapters in this country is now 562. Edgar H. Wells, director of chapters for the whole United States, stationed at National headquarters, Washington, is also director of the division which includes District of Columbia, Maryland, Virginia and West Virginia.

The American Medico-Psychological Association

Will hold its annual meeting in New York City, May 29 to June 1, under the presidency of Dr. Chas. G. Wagner, Binghamton, N. Y. Dr. Henry C. Eyman, Massillon, O., is secretary-treasurer. Headquarters will be at Hotel Astor.

Useful Fly Traps.

The State Board of Health, Richmond, has just issued a bulletin which contains designs for two excellent fly traps, either one of which can be constructed in a short time at a cost of not more than 75 cents for material. As this is the beginning of the fly season, it might not be amiss to secure one of these bulletins promptly. They may be had free of cost upon application to the above address.

Member of State Nurses' Board.

Governor Stuart has appointed Miss Ethel Smith, of Norfolk, to the State Board of Examiners of Graduate Nurses, for a term of five years, beginning June, 1917.

Dr. J. E. Shuler,

Recently of Caretta, W. Va., has just moved to Welch, W. Va.

Dr. Bernard P. Muse,

Of Baltimore, Md., was among the speakers at the memorial services held by the Heptasophs in this city, May 10.

Dr. L. G. Richards,

Roanoke, Va., won the Southern trap handicap in the final event of the twelfth Southern Trap Tournament, held in Roanoke, May 10.

Examiners for Heralds of Liberty.

At the annual meeting on May 16 of Monroe Lodge No. 67, Heralds of Liberty, Drs. William H. Parker and J. P. Roy were elected grand medical examiners.

Good Opening for a Doctor.

We have been informed from two sources that there is need for another good physician at The Plains, Virginia. Anyone interested might communicate with a local physician.

Obituary Record.

Lewis Banks Payne,

Son of Dr. R. L. Payne, of Norfolk, Va., died in Philadelphia, May 7, aged twenty-two years. Death was due to pneumonia. He was a student at Jefferson Medical College and would have graduated this year. The funeral was held from his home in Norfolk.

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PROGNOSIS.*

By PAUL H. RINGER, A. B., M. D., Asheville, N. C.

Every physician is asked upon his initial visit to every patient two questions: "What is the matter?" and "What is going to happen?" Thus at once he is requested to give utterance to his diagnosis and to his prognosis. It is noteworthy that so much more attention has been given to diagnosis than to prognosis in modern times. Whole libraries are to be found dealing with the former, while books or articles dealing with the latter are few indeed. Of course a proper prognosis presupposes an accurate diagnosis; yet all physicians are again and again forced to formulate a prognosis without having an absolutely accurate diagnosis very clearly in mind. Among the laity physicians are famous, if not infamous, for their unwillingness to commit themselves, and this reputation rests unquestionably upon the matter of prognosis. No man wishes to go on record as an absolute positivist in a matter in which there is such liability to error as prognosis. Hence, the "may," the "but," the "if," all of which go to make prognosis one of the most proficient examples of "the gentle art of hedging."

It is a far cry from the "Prognostics" of Hippocrates to Elsner's "Prognosis of Internal Disease" issued but a few months ago, and to the credit of the Master of Medicine is it that many of his observations and forecasts hold good today over the lapse of twenty-five centuries and at a time when advances and discoveries in medicine succeed one another with tremendous rapidity. The "Hippocratic facies" foretell impending death as accurately today as they did when Hippocrates first described them: "From a spitting of blood there comes a spitting of pus" (a prognostic statement) is today universally recognized, and none but the foolish will go contrary to the dictum "in acute disease it is not quite safe to prognosticate either death or recovery." The ancients devoted far more study to the question of prognosis than do we, but their prognostics were based almost exclusively on symptoms. On reading the works of Hippocrates, one is struck with the mass of symptoms, and combinations of symptoms observed, and the different prognostic value attached to each, a value far in excess of that which is given today. The ancients, however, used to the extreme limit the value of the data to be determined by observation. Having no pathology, no physiology save of the crudest (and, as we now know, falsest) nature, no conception of bacteriology or immunity, it is but natural that symptoms formed the foundation, edifice and superstructure of all their prognostic conclusions. Having but elementary modes of treatment, many of them, as we now know, based on false premises and incapable of doing good, the ancients could consider but very slightly the effect of treatment on disease. So, all honor to the sober, earnest and observant pioneers in medicine, who, despite their slender knowledge and awful handicaps, were able to lay down so many fundamental laws that have lasted to this day, and that will survive as long as man continues mortal.

The nature of modern prognosis is radically different from that of ancient prognosis. Having at our command a well-worked-out system of physiology, an ever-increasing knowledge of pathology, countless laboratory facilities for demonstrating the condition of the various organs and systems of the body as well as other procedures for estimating their functional ca-

*Read before the Buncombe County (N. C.) Medical Society, February 5, 1917.

pacities, having the knowledge gained at the operating table and at the necropsy room, we are in a far better position to make an accurate and precise diagnosis. Upon this as a basis must of necessity be grounded our forecast of the future. Hence, in contradistinction to the symptomatological prognosis of the ancients, modern prognosis is essentially based on diagnosis.

Furthermore, with the many agencies at our command, prognosis cannot be considered apart from treatment. We have passed the time when we can say, as our predecessor of one hundred and fifty years ago did:

> "First I bleeds 'em,
> Then I sweats 'em,
> Then, if they wants to die,
> I lets 'em."

Who is there that can formulate a prognosis in a case of appendicitis with rupture and leave out of consideration surgical interference? Or who can consider the outlook in diphtheria without taking into consideration the administration of antitoxin? It may be said that extreme instances have been chosen; true enough, but such and such only will stress the point sufficiently. Our forefathers had but little of the therapeutic armamentarium that we now possess, and still less of an accurate knowledge of conditions with which they were dealing. Thus, with us, prognosis becomes an infinitely more complicated question when dealt with from the dual viewpoint of diagnosis and therapeutics than from the single standpoint of symptomatology. The nature of modern medicine is to attempt to bring it more and more into the domain of science, to attain as nearly as possible to the absolute, and to rely as little as possible upon the variable. However praiseworthy this trend may be (and praiseworthy it is, as it has as its object the attainment of exact knowledge concerning all manner of human ills), the final goal is unattainable, and from the very nature of the material with which the practice of medicine deals, human beings with their protean characteristics, resistive powers, susceptibilities, etc., the art of medicine will ever remain a most important element in practice.

This argument brings us by but a short step to the question of the nature of prognosis. Is it a science or an art? Unquestionably, an admixture of both, but, save in isolated instances, the *art* of foretelling the future will ever overshadow the science of prophecy. When all is said and done, after the taking of the most careful history, the completion of the most searching physical examination, the correlation of the most diverse and minute laboratory tests, the physician must over and above these add thereto the fruits of his own experience, his knowledge of the "constitution" of the patient, his intuition, all of which—for reasons in the main empiric—inspire him with hope or with despair. These latter factors can never be gauged by any instrument of precision nor can their value be expressed in terms of quantity, but their importance is beyond measure and to their still small voices will the man of experience give keen attention.

Men are by nature either optimists or pessimists, and physicians, being men, must belong to one of these two groups. Every true physician should be an optimist, for only by walking throughout his own life on "the sunny side of the street" can he expect to dissipate the gloom with which he is daily brought in contact. The prognosis the physician gives must be in a measure influenced by his temperament, for the effect of physical conditions upon our minds is largely influenced by the color of the glasses through which we view the world. An optimistic prognosis at least to the patient is almost an essential. The question comes up again and again as to the advisability of telling the truth to patients fatally ill. It is but very rarely necessary to directly tell a patient that he will die. Sometimes, in the case of men with important business matters to arrange, the plain facts must be told. Relatives of the patient should always be informed as to the true state of his condition, that they may both be prepared, and realize that the physician appreciates the gravity of the situation. Even to them should be accentuated the fallibility of human knowledge, and every vestige of hope should not be withdrawn.

Shall the physician tell a deliberate falsehood to his patient that is not going to recover? It is well to avoid being too positive on the side of recovery, but the brightest possible side of the picture must be presented to the patient. We must remember that while, in the words of Hippocrates, "All the sick can not get well," our part is to soothe mental and

physical anguish, to minimize pain, to comfort and sustain our failing patients as well as to cure disease. The cheery smile, the brightening word, the tang of virility and strength in the physician go far to cheer and reinforce the patient. And if, after all, death is to come, let it come to those for whom we care, finding them fighting, not thinking of defeat, but ever hoping, even against concrete evidence, for improvement. By so doing we are rendering the best service possible to our patient, and, in a very small percentage of cases, we will turn apparently certain defeat into relative or complete victory. For an optimistic prognosis is to a trusting patient the most powerful suggestion possible, and who is there that will deny the right, nay, the bounden duty, of every physician to make use of this psychic aid to recovery from organic disease?

The effect of an unfavorable prognosis upon the patient may vary all the way from loss of faith in the physician making the prognosis to suicide, and we have all seen both extremes. Of course, blind optimism in the presence of a positive diagnosis of serious disease is akin to malpractice and can but result in untold harm. The patient with tubercle bacilli in his sputum must not be dismissed with a cough mixture and the assurance that he merely has a slight bronchial affection; the individual with a carcinomatous ulcer on the tongue must not be allowed to go with the advice to "stop smoking and it will all clear up." But while the patient must be made to realize the gravity of the condition and the necessity for proper therapeutic measures, we must endeavor to "temper the wind to the shorn lamb."

Finally, we must realize that the prognosis made has a decided influence upon the physician that makes it. Before our own eyes we must keep the candle of hope alight that, by its auto-suggestive action, our labors may be stimulated. Once having made an absolutely bad prognosis in a given case, we are almost invariably assailed by the thought "What's the use?" and ever afterward we treat that patient with a lessened enthusiasm and with less keen professional skill because of our loss of faith in ourselves. We must bear in mind our own fallibility and we must recall the cases in which we have been mistaken and in which, if not recovery, at any rate marked improvement has followed our hopeless forecast. The man that has lost faith in himself has likewise lost faith in all else as well, and it is in order to buoy up our own failings and fallible selves that we must not allow all hope to depart.

Thus we see that prognosis as here reviewed is essentially an art, one in which the conscientious and capable physician must not exclude the cold, absolute facts of science; one in which he must be honest with himself and fair to his patient, seeing matters in their true light, and when that light is all grey, giving to the patient that spark of life which, though perhaps ill-founded, springs from a desperate and heartfelt wish on the part of the doctor that he may be in the wrong, and, in the expression of that wish, stretching forth the hand of friendship and of help to a fellow-being for so long a time as that hand can be held.

8-10 *Government Street.*

THERAPEUTIC USES OF RADIUM.*

By CHAS. M. HAZEN, M. D., Richmond, Va.

An agency sending out energy in straight lines, or *radii*, is said to give off "rays." Such are sunlight, heat-rays from a stove or "radiator," Roentgen-rays, high-frequency discharges, the emanations and influences from radium and other radio-active substances.

The application of such rays in medicine and surgery constitutes "radiotherapy," such therapy embracing treatment by sunlight, heat, electric light, violet rays, X-ray, and radium.

These influences from a center are not all of one kind, nor can they all be thought of as waves in the ether. Sunlight and heat-waves are ether-waves, but the *alpha*, *beta* and *gamma* rays from radium are respectively gas-emanations, electron discharges, and ether waves.

Radium has become the synonym for the wonderful. The startling accounts of its tremendous output of energy are familiar and accepted by most of us with a grain of salt. The fact seems to be, indeed, that while these radioactive forces are here more strikingly manifested, they are in no way essentially different nor more remarkable than those which

*Read before the Richmond Academy of Medicine, February 13, 1917.

belong to all atomic and molecular structure. The potential forces which hold the elements of granite rock together and give a substantial basis to the world are of the same kind and equally powerful as the kinetic discharges which thrill us in the spectacular disintegration of the radium molecule. Fortunately for us, these cosmic and microcosmic powers tend, as the almost universal law, to stability and not to chemical anarchy. And it may be that these same radioactive outcasts of the atomic underworld have as their chief function to "point a moral and adorn a scientific tale;" in other words, to show by exception what are the great abiding rules of the universe.

The dissipated career of a particle of radium—one might almost say the "drunken" career—extends over some 3,000 years; he strews his scintillations along the "great white way," during that rather extended period; and at the end of that time has descended to the level of existence of the plebeian of all the elements—in fact, has become *lead*. This is perhaps the first real instance, or proof, of the transmutability of metals, the old alchemistic pipe-dream. The field is now open for someone to make an unlimited fortune by transmuting lead into radium. (*Plumbers*, who take their trade-name from the base metal *plumbum*, are, it is true, reputed to turn lead into gold with great success).

While we are thus glancing at the romantic side of the subject, we might consider that radium gains interest in the popular mind by its great rarity and costliness. At about $75,000 per gram, or for 15 grains, it is about the most expensive of all commodities; and the output in any one year is perhaps 15 or 20 grams. Our subject acquires sentiment also by association with the life of the celebrated Madame Curie. Thus we are brought to the proper attitude of mind to accept the most marvelous claims as to its therapeutic value.

Not to mention all radioactive substances, the great disintegration series are three. *actinium*, *thorium*, and *uranium-radium*. All these degenerate towards *lead; bismuth* is also a degeneration product. *Thorium* and *mesothorium* are somewhat important as a therapeutic substitute for radium; *actinium* is of only scientific interest. They are all found with, or derived from, uranium.

In the commercial development of these substances, America has in the past been second to Germany; but in the future, not only on account of the great war, but because of our mineral supply, the world will look to us. Austria was for a long time supposed to be the one available source of these ores; at Joachimsthal pitchblende is mined, which yields uranium. And then, long before we had waked to the fact, radium ore was being shipped from here and reduced in Germany. Our chief ore is *carnotite*, which is mined in Colorado and Utah; one of the locations is Paradox Valley, bearing a suitable name for such a paradoxical product. Other world-sources of slight importance are Portugal, Australia and Russian Turkestan.

Radium belongs to the metals of the *alkaline earths*, along with *magnesium*, *calcium*, *barium* and *strontium*. Some of these play an important part in the chemistry of medicine and of the human body. Magnesium salts have a dynamic quality along certain lines,—even 10 cent's worth. Barium, which is always found with radium, is a familiar agent in the chemical laboratory, because of the extreme insolubility of its sulphate; for the same reason and its comparative cheapness, it is displacing bismuth for X-ray gastrointestinal examination. Calcium, on account of its solubilities, is the greatest of all the physiological chemicals in relation to tissue-building in normal and pathological conditions.

The production of radium from its ores, which are very varied and complicated with other metallic bases, is to reduce insoluble sulphates to carbonates, to separate those of other bases and, finally, by crystallization and recrystallization, to isolate the radium in the form of the chloride. It is commonly sold and used as the bromide.

The Council on Pharmacy of the American Medical Association has listed as official remedies radium sulphate, carbonate, chloride and bromide; also waters which have been treated by emanations. These remedies have been under investigation by such authoritative agencies as the London Radium Institute, the Middlesex Society for Cancer Research, the Paris Laboratoire Biologique du Radium, the New York Skin and Cancer Hospital, Johns Hopkins, and other corporate and private workers.

An attempt to formulate the physiological action of radium and its salts would proceed along the line, first, as to *alkalinity*. If the amounts to which a patient could be exposed externally or internally might be considered to be aught but infinitesimal as compared with the doses we are accustomed to give of the other alkalies, such as sodium, potassium, calcium, we might feel that the *nascent* state in which radium always exists could be thought of as important. In fact, statements have been made as to such action upon urates. But the effect of alkali is quantitative and depends upon a certain amount of bulk. There is good authority for the existence of traces of radium in mineral waters, such as those at Bath, England, at Carlsbad and elsewhere on the Continent, and even in the so-called "lithia" springs and wells about Richmond, Va.; but the amounts could not be thought important from the alkaline standpoint. Neither is it likely that the therapeusis of mineral water will ever recover from the strictures made upon it by Dr. Osler. Plenty of pure water for nothing is of more importance to health than a few doses of fluid influenced by radium emanations at $2.00 an ounce. Information is lacking as to where the radium thus administered goes and what tissues it affects and whether favorably in certain respects and unfavorably in others. Vague insinuations are met with as to "increased oxidation," "activation of" and "reinforcement of ferments." But Ponce de Leon and other old stagers would better have looked to arsenic pills than to fountains of youth, although they might contain radium. Should you not, in prescribing impregnated waters, either natural or artificial, feel doubtful on the one hand whether your patient was getting his money's worth, or on the other hand whether he was having his insides burned out, or maybe that there was such danger of his taking such fresh lease on life that he and the spirit of radium would go skipping together down the flowery paths of youth for another three thousand years?

The physiological action of radium salts will have to be based, not on the chemical analogy to its colleagues of the alkaline earths, but on the effect of its emanations and discharges upon the living cells which come under its influence. As in other radiotherapy, such action will be of two kinds, stimulative and destructive; these effects are upon the life of cells exposed to the influence. Whatever effect there may be *en masse* on the tissues by the production of heat, hyperemia, by the stimulation of secretion, or by nerve effects, cannot apparently be considered of much, if any, importance. We may believe that, ordinarily, the result of any *electrical* influence will be towards stimulation of cell-life; this seems proven by all experience and research. Von Noorden is quoted as saying, "We may designate this treatment with radioactive substances as 'internal electrotherapy;' and we thus possess a means of carrying electrical energy into the depths of the body, and there subjecting the juices, protoplasm and nuclei of the cells to an immediate bombardment by explosion of electrical atoms." This is, of course, true, since the *beta* rays are electrical discharges of a certain kind; but can such action with the available amounts of radium be other than infinitesimal? And, furthermore, we may claim that electrical treatment by high-tension currents is satisfactory "internal electrotherapy" of a much more rational quality and quantity.

We may also compare radium results with what is known of the effects of the Roentgen-ray, since the *gamma* radium rays are very much the same as the Roentgen-ray. And the therapeutic value of that agent is certainly along these two lines of stimulation of the cell-life and destruction of the call. One writer (Dr. W. S. Lazarus-Barlow, *The Lancet*, September 12, 1914), reporting effects of various exposures of radium upon skin and mucous membranes of the rat, uses the terms—"time-factor" and "quantity-factor." He has studied cell-division as influenced by these exposures and decides that the balance between the length of the treatment and the amount of radium used will determine the value of the treatment according to the structure to be healed or to be destroyed.

The action of these rays upon disease-germs is an interesting object of research and naturally they are found to be in sufficient dosage bactericidal.

On the above considerations as to physiological action, we may attempt to construct a therapy. We may conclude that:

Radium may be expected to influence favor-

ably a low vitality of bodily tissue exposed to it, this devitalized condition being congenital, or acquired by infection, injury, or senility. It may be expected also to favor the destruction of new growths by over-stimulation or by *selective action*. We are justified in believing there is such a thing as "selective" action, whereby normal cells have their resistance increased and pathological cells are at the same time favorably affected.

The skin and mucous surfaces are those structures which are most likely to be within reach of this therapy; the areas thus treated will necessarily be small on account of the rarity and costliness of the agent. For this reason, other methods, as the X-ray, will often be more available. The destruction of small skin growths is well within the practicable range of this therapy; and the shrinking of circumscribed tumors, like fibroids of the uterus, can be undertaken with fairly large quantities of radium.

The London Radium Institute reports that warts and papillomata yield readily to short exposures; cavernous naevi do well; keloids give excellent results; the treatment is of use in lupus vulgaris, and lupus erythematosus often responds favorably; leucoplakia patches are speedily removed, but tend to recur; carcinoma of breast, uterus, rectum, show a favorable influence, but "cure" should not be spoken of in this connection; in fibroid conditions of the uterus there is a most beneficial action upon the distressing symptoms, menorrhagia and metrorrhagia.

The reports from the New York Skin and Cancer Hospital would indicate the same general findings. Dr. W. S. Russell, of that institution, quotes the workers in the Paris Biological Laboratory and the London Cancer Hospital to the effect that operation is safest in early cancer, and radium is a useful adjunct following operation.

A number of X-ray operators are employing radium in selected cases and as an auxiliary. These men are in a way more competent to handle it efficiently, having made a study of radiotherapy in general. Several of them who have suffered from X-ray dermatitis have had resulting lesions cured by radium.

The following general diseases have been treated at the London Institute by radium-influenced water with apparent benefit in some cases: Arteriosclerosis, exophthalmic goitre, leukemia (myelogenous), gout, neuralgias, arthritis deformans.

Dr. Kelly's recent reprints deal chiefly with the successful treatment of selected cases of cancer of the cervix and palliation in inoperable ones; of fibroid tumors of the uterus and so-called myopathic uterine hemorrhages. Dr. Kelly is understood to have a large proportion of the small amount of radium owned in this country. He does not, however, condemn the use of smaller amounts, and all over the country it is being employed more and more.

Dr. Kelly's technique is the most definite, as far as publication goes; the gamma-rays are used, the alpha and beta rays being filtered out by zinc-foil, platinum and rubber. He uses as little as 12 milligrams and as much as 560 milligrams, estimated as radium element; the time-limit is from one-and-a-half to forty-eight hours.

My own use of radium, the amount being 10 milligrams of the bromide, is limited to skin lesions, some benign and some malignant. It seems to be the method of choice when it is desired to avoid a cutting operation, or the pain of the fulguration spark, or to limit the effect to a small area, or where for any reason other methods are contraindicated. Within this range of use I can confirm the results quoted above.

The following cases will suffice for illustration:

Case 1.—Miss D.: Small telangiectasis on the side of the nose, removed by one two-hours' treatment.

Case 2.—Mr. J. J. T.: Epithelioma on the neck, one-half inch in diameter, removed in two sittings; well since treatment two years ago.

Case 3.—Mrs. M.: Seed-warts on fingers, next to nails, removed in two sittings.

Case 4.—Mr. H.: Old man; ulcerated skin beneath the eye healed; several sittings.

Case 5.—Mrs. K. F.: Suppurating sinus in the flesh of the thigh, refusing to heal, favorably affected by four-hour exposures.

Case 6.—Mr. D.: Keratoses on the face removed by a single treatment in each case.

REFERENCES.

Our Radium Resources, C. L. Parsons, *Scientific American*, Nov. 22, 1913.

Radium Dosage, W. J. Schieffelin, *Scientific American*, Feb. 20, 1915.
(Number of other articles published from time to time in same journal.)
Chemistry of Radio Elements, Frederick Solly, Published by Longmans, Green & Co.
Freund's Radiotherapy, published by Rebman.
Reports of Council on Pharmacy, *Jour. Amer. Med. Assn.*
Dr. Howard Kelly: Reprints from Transactions of Southern Surgical and Gynecological Society and form *Jour. Amer. Med. Assn.*
American Journal of Roentgenology.
114 *North Fifth Street.*

THE MANAGEMENT OF TUBERCULOSIS IN THE HOME.

By W. R. CUSHING, M. D., Dublin, Va.

No subject in the medical world is recognized as more important than the prevention and cure of tuberculosis. Wherever two or three medical men are gathered together this question comes up, and no association of medical men in its meetings fails to give it consideration. It goes without saying that any question which is being continually discussed opens up a vast field for the airing of individual opinions of all shades and varieties. Medical men are but men at best and subject to the same vagaries and fancies as other men, and the tendency to dogmatism and positivism is, if anything, more fully developed in them than in other men. Hence, it is particularly hard to break down the barriers and defenses they erect about their favorite theories and fads. Not content with that, they not only defend these views with all the ingenuity and power they possess, but they attack the pet ideas of their opponents most tempestuously and, if it be possible, leave them nothing to stand upon. Witness the entire change in the management and treatment of the disease in question.

The proper management of all infectious diseases in the home resolves itself into placing the home on a hospital basis with all the care and cleanliness that that implies, and to convert a tuberculous patient's home into a tuberculosis sanatorium is the ideal management of tuberculosis in the home. To do this it is necessary that the medical attendant should have complete control of the patient himself and also of the individual members of the household and, in addition to this, general supervision of the premises with recognized authority to make needed changes, and sometimes even to revolutionize methods and systems of home government. There are almost insuperable obstacles in the way of accomplishing this. The general principles are well defined—proper diet, pure air, well-regulated exercise, with rest and all the other incidental comforts and diversions that add to the pleasure and encouragement of the patient.

It is universally admitted that routine treatment in any disease is bad treatment, and it is undoubtedly true that the personal factor in a case of tuberculosis is entitled to the same consideration as in any other disease. Still, general outlines and policies are all right, but can only be carried out with due consideration to the home itself and the condition of the patient. There are all sorts of homes and all sorts of patients, and the management must be so ordered as to fit the conditions. Take, for instance, the one or two-room cabins scattered over the hills and in the hollows of Southwest Virginia. One common sleeping room with two or three beds and one common cooking and eating room. What can the physician do about that? As a matter of fact he does very little except to give some general advice, institute the proper medical treatment and leave the whole business to itself, dropping in occasionally to see how matters are. The consequence is that when he returns he finds no improvement, for he has to contend not only with ignorance and inability to comprehend the importance of carrying out directions, but also absolute lack of means to make improvements deemed necessary. When one has such an experience and sees the patient live on and on and finally die after being in daily contact and association with others, throughout the whole history of the case, and then no other case develop in that family, he is driven to the conclusion that, in spite of all that is said and written about the infectious character of the disease, it is either only mildly infectious, or the other members of the family are immune. No other infectious disease shows such a record. Lack of susceptibility and mildness of infection amount to the same thing so far as the race is concerned, and the salvation of the race depends upon one or the other, or both, for in spite of all regula-

*Read before the Southwest Virginia Medical Society, at Roanoke, December 21-22, 1916.

tions and efforts to the contrary daily exposure to germs is unavoidable.

In a home where it can be arranged, a large, airy room, well lighted and ventilated with proper arrangements for disinfection of vessels and disposition of sputa should be ordered. The almost universally recommended sleeping porches are being used all over the country without regard to location, climate or height above sea-level. Remember, however good and salutary fresh air may be for the sick, yet, even in tuberculosis, it may be carried to an extreme. In the territory west of Roanoke, in the Alleghany mountain district, with well located and well built residences—the only kind occupied by people who can afford to build sleeping porches, 2,000 feet more or less above sea-level,—with large, airy rooms and plenty of windows, sleeping porches are *not* a necessity. In fact, it is hard to manufacture bad air up there, and yet about the first thing said to a patient from that section is "Build a sleeping porch." The hard and fast rule, "Live out of doors, sleep out of doors," should be so modified as to give due consideration not only to the condition of the patient but also to his surroundings.

So much for the home, now for the patient. There are contrary patients, docile patients, careless patients, energetic patients, lazy patients and many other kinds and varieties, and all these classes are permeated with the conviction that in the end all will be well. The old idea, "Doctors make mistakes, I haven't got it," has given place to "Others have been cured, I will be cured," and it is consequently hard to make the patient realize the importance of carrying out to the minutest detail the rules laid down for his guidance. If one enters a man's house and speaks of isolation as important, if he does so far as to suggest that he should take his meals by himself, that his furniture be stripped from his room, or that his comforts be in any way curtailed, he meets with strenuous opposition. Take the case of the head of the family, the bread winner, or the mother with a lot of children, ranging from ten to twelve years of age down to as many months, and think of the impracticability of isolation or separation from each other.

The aim of all supervision of tuberculous cases is, primarily, the benefiting and curing of the patient, and, secondarily, protecting others from infection. Which is the more important? In the abstract, the prevention of infection of others is of greater importance than the outcome in the case of the individual already sick. The laws of nature, the laws of the State and the laws of God are based upon the principle of "The greatest good to the greatest number," or, as Darwin puts it, "The survival of the Fittest." This is all pretty and attractive as a theory but in practice it is demonstrated daily that in all families the welfare of the sick one is the most important thing,—so important that the possible danger of infection to others is considered of little moment.

Oft repeated warnings lose their force. One day succeeds another so exactly like it that danger at first recognized and shunned is after a time but little thought of. Rigid rules breaking in upon the social relations of members of the same family, while protecting others, may work incalculable harm to the patient and can be very ineffectively carried out. The selfish, exacting patient, will insist upon being waited upon by young, healthy people, thoughtless of danger, or so accustomed to the daily conditions as to give them no consideration. Family ties are so binding and so sacred that no outsider, even the physician, can step in with orders that will loosen them longer than he is giving them. Children will continue to caress their sick mothers and sick mothers will continue to fondle their little children very much in the same way they have, since the time of the first mother.

I fear that this paper, properly classed, cannot be considered a treatise on "The Management of Tuberculosis in the Home," but rather a "Defense of" or "An Apology for the Practitioner, who does not carry out the stereotyped plan of management now so strongly urged by well recognized authorities." Yet, the facts stated are actual facts; the conditions are actual conditions; and the obstacles in the way are actual obstacles that confront the physician every day. He should undertake his task with cheerful encouragement and sympathy combined with the firmness necessary to cause his authority to be recognized and to enable him to gain and hold control of both the patient himself and the entire family; persuading, entreating and even com-

manding as may be needed, never allowing them to get the idea that a single member of the household is absolved from the obligation to carry out his orders. "'Tis a consummation devoutly to be wished."

The special care of the patient is based upon well defined general principles,—sparsely furnished room, separate bed and sleeping apartment, full and free ventilation day and night, airing the bedding every day, frequent change of clothing, sponge baths, good nourishing food of almost any kind that the digestive organs can handle, in sufficient quantities. I have a strong objection to actual over-feeding, and the use of a certain number of eggs or a certain quantity of milk, say every two hours, from early morning until late at night. Don't for a moment think that I object to anything that will add to the strength and flesh of the patient, but I do object to pushing the nourishment to the extent of actual discomfort. This frequent feeding gives the stomach no time to rest. I have seen patients in a state of discomfort all the time between meals; still trying to carry out the directions as to frequency of taking, and amount of food to be taken at stated intervals, by a man who had never seen them after giving the order.* I recall one man in particular, able to be up about the house who would take his food when brought to him, look at it with supreme disgust, grab a lemon in the other hand, and then gulp the food as if it were a nauseous dose and suck the lemon. I have heard this same patient complain of no appetite at meal time. Nothing remarkable about that; a healthy man would have no relish for his meals if he were fed every two hours between times. I have no hesitancy in saying for myself under such circumstances, tuberculosis or no tuberculosis. I would stop that long enough for the stomach to get empty one time anyhow, and see whether I would get healthily hungry.

There are no two opinions about life outside: sunshine and fresh air are all important. Rest and exercise, two apparently antagonistic things, can be harmonized; and I believe directions concerning them should depend upon the temperament and previous habits of the patient. To require an active, eneregtic man who has led a life of activity for years, mind and body occupied with his daily business, to exercise neither mind nor body but to rest for hours at a time every day, would make him so miserable as to off-set any possible good that might accrue to him by following that course. Reasonable rest, reasonable exercise, changing from one to the other dependent upon the state of mind will meet the indications. A patient with a thermometer is generally a nuisance whatever the trouble, as is also a patient who counts his own pulse, so I discourage the use of a thermometer either by him or his attendant unless it be necessary to follow up the temperature for a few days for special reasons.

The fear of spreading infection to healthy parts of the lungs by deep inhalations and chest exercises does not impress me as founded on a reasonable basis. The teaching, generally accepted, that dried sputa with consequent circulation of germs in the air, is the usual source of danger, seems to negative the idea that a deep breath could catch up germs, enveloped in mucus or embedded in ulcerated tissue, and carry them to distant points and deposit them.

As to house furnishings, bare walls, bare floors, removal of all tapestries and decorations and unnecessary articles are essential. There is one thing in common use in homes all over the country which does not seem to have impressed physicians as a source of danger—the telephone. Picture to yourselves the feeble consumptive with ulcerated throat and a bad cough with his mouth in a transmitter talking to his friend, as he breaks off in the midst of his conversation to cough, careless whether the unseen particles of mucus loaded with germs go into the transmitter or outside of it, and tell me whether the next man or woman who goes there has any protection against infection?

Incidentally, I want to call attention to the public telephone booth—pay-stations as they are called—spread broadcast all over the State in hotels, drug-stores and country stores, set up anywhere that a proprietor may be willing to have it installed. I believe them to be a very serious danger to the public health, not only as regards tuberculosis but also other infections. You know the conditions, generally

*I refer here to patients who go to specialists for treatment and advice and come back home loaded down with specific directions which they undertake to carry out without seeking the counsel of their regular medical adviser.

in some dark corner so as to be out of the way. I don't think I ever saw a booth in which there was sunshine, and, to secure privacy, ventilation is almost entirely cut off. It is passing strange that the State Board of Health, which has shown such an interest in the individual drinking cup and the sanitary condition of school houses, theatres, public conveyances, etc., seems to pay no attention to such a menace as telephone booths. If any orders have ever been issued even requiring the companies to clean the spittoons, I have never heard of it.

In this paper I have endeavored to portray conditions as they are. I have expressed some views that probably are at variance with your opinions, but such as they are I leave them with you.

Clinical Reports.

GUNSHOT WOUNDS OF THE ABDOMEN.

By E. HOWE MILLER, M. D., Danville, Va.

In these days and times when military surgery is occupying the middle of the surgical stage, it may be fiitting to report one or two cases of gunshot wounds of the abdomen, which occurred in my practice during the past few months.

A majority of the gunshot wounds of the abdomen which we read of in the reports from the present war are caused by bullets of high velocity. As we all know these projectiles are not as infective as the common lead bullet which we meet with in these emergency cases. The four cases which I wish to report were injuries caused by bullets fired from low-powered guns of a cheap make, and at close range.

Case 1.—Mr. B., referred by Dr. Bennett, of Chatham, Va. The patient, a blacksmith, 67 years of age, was shot with a 22-calibre rifle only a few feet away from him. The bullet struck the finger of another person before it entered the abdomen of the patient, causing it to turn end over end as it entered the abdomen. The patient was shot about the middle of the day and was brought to the hospital in an automobile over very rough roads a distance of nineteen miles. When first seen his clothing was covered with blood. He was not shocked, though he had lost a great deal of blood.

The bullet entered the abdomen two inches below and to the left of the umbilicus. He was put upon the table immediately and a midline incision made. The hole where the bullet entered was large enough to introduce the tip of the small finger into the abdomen, which led me to believe that the bullet was turning end over end, thus producing such a large hole.

The abdomen was filled with blood and a small amount of fœcal matter. Four holes were found in the small intestines, a hole through the anterior and posterior walls of the transverse colon, also an opening through the anterior and posterior wall of the stomach.

The perforations of the small intestines were closed by a single purse-string suture of silk; likewise, the two openings in the transverse colon. The two openings in the stomach were closed in like manner, being reinforced by a Lembert suture. Two rubber tubes were introduced as drains, one in the cul-de-sac, another into the left flank, going up to the left kidney.

The patient was put to bed, continuous Murphy drip given, and food withheld for three days. He reacted nicely from the operation, his temperature never being above 99 degrees during his entire convalescence. The drains were gradually removed and at the end of three weeks he was discharged, having made a nice recovery.

Case 2.—M. H., colored girl, 23 years of age, referred by Dr. I. C. Harrison, Danville, Va., was shot in the abdomen with a 32 calibre pistol at close range. This bullet also passed through the hand of a man before entering her abdomen. The bullet entered 2½ inches to the left of the umbilicus.

A left rectus incision was made, and a small amount of blood and fœcal matter was found in the abdomen. Four holes were found in the small intestines, all of which were closed by the purse-string suture of silk. Two drains were introduced, one into the cul-de-sac, another passing down to the region of the left kidney. The same post-operative treatment as in the other case was instituted. The patient reacted nicely from the anæsthetic and after three weeks made a successful recovery and is still in good condition.

Case 3.—R. P., a boy 12 years of age, referred by Dr. J. C. Giles, Danville, Va., was shot accidentally with a 22 calibre rifle, the bullet entering the abdomen slightly to the left of the mid-line just below the border of the ribs.

He was brought to the hospital about two hours after the accident and was put upon the table as soon as possible. A mid-line incision was made. The abdomen was filled with blood and some gastric contents. The bullet passed into the stomach but did not go through the posterior wall, this latter being bruised and bleeding.

The hole in the anterior wall of the stomach was closed by a purse-string suture of silk and reinforced by a Lembert suture. For fear that the wound on the posterior wall of the stomach would slough, I reinforced it also with a purse-string of silk suture.

One drainage tube was introduced down to the stomach and the patient left the table in good condition. He reacted nicely and did well until the third day, when he developed pneumonia, from which he died.

Case 4.—E. S., colored woman, about forty years of age, referred by Dr. O. H. Smith. Altivista, Va., was shot with a 32 calibre pistol at close range. The bullet entered the abdomen slightly to the right of the mid-line just below the margin of the ribs.

She was brought to the hospital about five hours after the injury and was in a state of shock when I saw her; pulse was weak, and very rapid. I made a mid-line incision and found an enormous quantity of blood in the abdomen. The intestines were so distended with gas, and the hemorrhage was so profuse, that it was with difficulty I found the bleeding point. The bullet entered the liver, which was bleeding profusely. A mattress suture was introduced into the liver to control hemorrhage. A large drainage tube was placed under the liver and extended to the back. The patient was put to bed in bad condition, the foot of the bed was elevated, and Murphy drip with adrenalin was given; morphine, grain 1-6, was administered to keep her quiet, as she was very restless.

For several days it looked as if she would die, but gradually she began to improve. The third day following the operation large quantities of blood and bile began draining from the tube. After a day the blood stopped and bright yellow bile continued to flow for a week. I allowed the drain to remain in place for ten days, gradually withdrawing it as the bile drainage lessened. This patient made a slow recovery, but after four weeks left the hospital in good condition and still remains in good health.

I report these four cases because I think they are of interest to physicians in the South, particularly those of us who are liable to be called upon at any time for gunshot wounds of the abdomen. I do not claim anything original in the method of treatment, but base the recovery of the three of them simply to good luck and a thorough inspection of the abdomen for all perforations which may have taken place during the injury.

I have had a number of these cases and find the ordinary purse-string suture of medium size silk an ideal method of closing the intestine. The use of morphine in these cases I consider also a most important item, just enough to keep the patient quiet and to act as a splint for the wounded gut.

878 *Main Street.*

Proceedings of Societies, Etc.

EXECUTIVE COUNCIL, MEDICAL SOCIETY OF VIRGINIA, HOLDS MEETING.

A called meeting of the Executive Council was held in Richmond, May 23, with the following members present: Drs. Whitehead, Kendig, Newton, Riley, Gray, McGuire, Hancock, Davis, with Drs. Drewry in the chair, and Murrell, Clerk. The Secretary, Dr. Irving, and Treasurer, Dr. Peyser, were present by invitation.

The meeting was called principally to consider the revision of the constitution and by-laws. A special committee, Dr. Kendig, Chairman, handed in a complete report, which was adopted. A copy of the new constitution and by-laws, as recommended by the Council, will soon be in print and in the hands of each member, to be voted on at the Roanoke meeting.

At the request of the Council, Dr. Stuart McGuire, Chairman of the Virginia Committee on Preparedness, and Dr. E. G. Williams, of

the State Council of Defense, appeared, and spoke of the need of the medical cooperation with their committees. The following motion was adopted:

"*Whereas*, In the exigencies of the present war, it is clear that the United States Government is in need of a large number of medical recruits, and

"*Whereas*, It is necessary that the civilian population shall be also adequately provided with physicians in order to conserve the resources of the State, therefore,

"*Be it Resolved*, First, that the Executive Council of the Medical Society of Virginia tenders its services and the resources of the Society to the Virginia Committee on Medical Preparedness and through it to the General Medical Board of the Council on National Defense, in an effort to cooperate with them in any way that these bodies may need;

"*Resolved*, Second, that a copy of this preamble and these resolutions be forwarded to Dr. Stuart McGuire, Chairman of the Virginia Committee on Medical Preparedness, with the request that they be transmitted to the General Board of the Council on National Defense."

And, further, a committee was appointed, to be known as the Committee on Medical Defense of the Medical Society of Virginia. This Committee is as follows: Drs. J. Staige Davis, W. F. Drewry, A. L. Gray, Paulus A. Irving and George A. Stover.

The Clerk was directed to write a letter to each member of the Society, stating the needs of the situation.

T. W. Murrell, M. D.,
Clerk.

Analyses, Selections, Etc.

The Bacteriology of the Urine in Children With Vulvo-Vaginitis.

By A. B. SCHWARTZ, M. D., Milwaukee, Wis.
(*Amer. Jour. Dis. Children*, May, 1917.)*

The conception of an ascending route of infection in cystitis in infancy has heretofore largely rested on the unproved assumption of a constantly contaminated urethral tract. Such a hypothesis served to explain the predominance of cystitis in female infants.

If the incidence of cystitis were subject to local factors, then any condition which increased such local factors should militate against a sterile urinary tract.

Dr. Schwartz presents a series of experiments to show that while a child may have a vulvovaginitis it does not necessarily follow that it must also have a cystitis. On the contrary, it would appear from these experiments that cystitis is the exception and not the rule in cases of vulvovaginitis.

In 18 unselected patients with chronic gonococcus vulvovaginitis, carefully catheterized specimens of urine showed a comparative absence of bacteria. The majority of the organisms encountered were either Gram-positive cocci or diphtheroid bacilli, and these were considered merely accidental contaminations from the urethra.

Moreover, in uncatheterized specimens the urine was shown to be as free from infecting organisms as was demonstrated in a previous series of normals.

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

Pellagra in Children.

By WM. A. MURPHY, M. D., New York.
(*Arch. Ped.*, April, 1917.)*

Definite recognizable cases in children under twelve are rare. Numerous cases do occur, however, in young children and even in infants. 10 per cent. of all pellagrins, quoted by the author, are children under fifteen years of age.

Among the more striking points of the disease in children may be mentioned: rarity of simultaneous occurrence in mother and nursing child; lack of any great difference between sex; marked contrast between white and colored children, the ratio in some instances being as high as 25 to 1; no predisposition to direct heredity, and, finally, the disease is limited to no particular climate.

Prodromal symptoms are usually noted in those old enough to give an account of their condition. These consist of anorexia, pain and a sense of distention in the epigastric region, frequently diarrhœa with insatiable thirst; headaches, chiefly occipital, pain in the back and neck, dizziness, muscular weakness and a burning sensation in the bottom of the feet.

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

Children with pellagra do not differ markedly from adults, except, as a rule, the course is milder. Marked nervous symptoms are not common, and frequently do not appear at all. Not uncommonly the eruption may be the only prominent symptom. There is a form of the disease, however, in which the skin lesions do not appear. These show some of the nervous manifestations with repeated attacks of stomatitis and diarrhœas, emaciation and obstinate gastrointestinal disturbances.

Sprue and syphilis are the two conditions most likely to be confounded with pellagra in children.

Prognosis, good in most cases. Death usually the result of exhaustion or myocardial degeneration.

Cardiac Disease in Children and the Cardiac Clinic.

By J. S. FERGUSON, M. D., New York.
(*Arch. Ped.*, April, 1917.)*

This is an appeal for the care and treatment of cardiacs among children, the disease apparently being on the increase.

A survey of the age distribution of the disease showed a relatively low ratio of cases announced for school children in 1913 (1,345,398 school children examined between 1909 and 1913 showed less than one per cent. in which cardiac disease was found), and its lack of agreement with every-day experience in the out-patient clinics. A survey of neighborhood children made through the Social Service Department of Bellevue Hospital disclosed the fact that roughly 7 per cent. (2 per cent of these were classed as functional murmurs) of a large group of nearby school children were affected with organic or functional heart murmurs. According to the statistics from the U. S. Registration area for 1912, 2 per cent. of deaths from organic heart disease occurred under the age of 10 years.

While a good many of the murmurs heard in children are obviously functional, not a few of them, according to Dr. Ferguson, are mild cases of endocarditis terminating in recovery.

As a causative agent, "focal" infections have to be seriously considered. All endocarditis cases should be regarded as an infection, arising from a local source. A possible source can usually be found in or about the mouth and its adjacent sinuses, through purulent processes elsewhere in the body, as well as in the infectious diseases.

By competent recognition of the possible sources of cardiac disease, by carefully following up cases at their homes, by studying the epidemiology, as it were, the cardiac clinic with an effectual social service can do much for the prevention of heart disease in children. Moreover, by attention to intercurrent diseases, by careful instruction in hygiene initiated by the physician and followed up by the visiting nurse, by cooperation with open-air clinics and fresh-air homes, by the admission of cardiac children to open-air classes or to those on the ground floor of out-schools, much can be accomplished for the cardiac child.

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

The Treatment of Osteomyelitis.

By CHANNING C. SIMMONS, M. D., Boston.
(*Bos. Med. and Surg. Jour.*, May 10, 1917.)*

The author makes a strong appeal for the careful investigation of all so-called "rheumatism" cases in childhood, with the idea of them being a possible osteomyelitis, and when the question of diagnosis is in doubt, Dr. Simmons advises operation anyway. If the diagnosis is incorrect, practically no harm is done; while if correct, a great deal of suffering may be avoided.

In those cases giving a history of onset within one year, the prognosis is nearly always good when proper surgical treatment has been instituted. We have all seen the hospital derelicts with chronic osteomyelitis, who drift from one hospital to another, requiring some sort of an operation once in six or eight months, and it is hard to realize that if these cases had had proper surgical treatment at the outset many would have been cured.

Osteomyelitis is diffuse or local. The latter is by far the more common. Mild attacks of monarticular rheumatism, or "growing pains," may represent mild infections. The amount of bone destroyed depends on the virulence of the infecting organisms, the resistance of the individual, and to some extent on the portion of the bone involved.

If the organism is of low virulence, the process may become localized in the head of the

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

bone and break through the cortex early, or it may form a chronic abscess with the destruction of very little bone. In these cases the cavity becomes walled off, there may be no discharge of pus, and the symptoms of "rheumatism" gradually subside as the abscess becomes sterile.

The X-ray is of no value in acute osteomyelitis, except to exclude scurvy or syphilis. After the acute stage the X-ray is absolutely necessary, for the treatment of the bone is practically based entirely on it.

The treatment of osteomyelitis is largely surgical, and Dr. Simmons goes into detail concerning the technique, etc. A number of cases are cited, analyses given and a number of plates shown.

Measles From the Standpoint of Prevention.

By J. G. WILSON, M. D.,
U. S. Public Health Service, New York.

(*Arch. Ped.*, April, 1917.)*

Dr. Wilson's first plea in this article is for the standardization of present laws affecting measles, and adoption of same by all state and local boards. As the matter now stands, there is too little cooperation between the parents, the attending physicians and the public health boards. Again, there is a tendency on the part of some health officers to relax the enforcement of existing laws. Some states require notification and placarding of the house only. Some require strict quarantine of all the members of the household, some of the patient only, and others of the patient and exposed persons.

Dr. Wilson believes that by standardization of existing laws governing notification, isolation and quarantine, together with certain measures by which early detection of cases can be determined, epidemics can be reduced to a minimum, and cross infections and complications be more limited also. The thermometer is the best means for detecting early cases, and should be used regularly in all suspected and exposed children. Following this procedure, the proportion of cases developing in the detention rooms of Ellis Island Hospital dropped one-half.

A complete reform of hospital construction and management of cases in hospitals so that hospitalization may be made both popular and efficient is also emphasized, together with a persistence in our effort to isolate the organism of the disease in order that an intelligent effort may be made to produce artificial immunity.

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

Editorial.

Medical Schools of Virginia Have Finals.

The Medical College of Virginia, Richmond, and Medical Department of the University of Virginia, Charlottesville, completed their sessions this year with less ceremony than is customary because of patriotic reasons and also because some of their numbers had already left the colleges to enlist for service in the war.

Medical College of Virginia.

The observance of college night on June 2, was followed on Sunday by the baccalaureate sermon by Rev. Fred R. Chenault at Broad Street Methodist Church. The Alumni Society, Dr. A. L. Tynes, Staunton, Va., presiding, met on the evening of June 4. Following an address by the president, and a business session, a smoker and buffet luncheon was held. At the meeting of the Alumni Society on the morning of the 5th, there was a symposium on "The War As It Affects Physicians, Dentists and Pharmacists." The speakers included Drs. Stuart McGuire, A. L. Gray, Robert C. Bryan, J. Fulmer Bright, Giles Cook, J. Mortimer Hughes and Micajah Boland, of the naval recruiting station in this city. The final exercises were held at the City Auditorium on the evening of the 6th, the address of the evening being by Dr. E. N. Calisch, of this city. Of the 112 to receive diplomas in the medical department, 17 were awarded diplomas by Dr. J. P. Munroe, of Charlotte, N. C., as graduates of the North Carolina Medical College, from which they were transferred when that school closed. Dr. Stuart McGuire awarded diplomas to graduates of the Medical College of Virginia. There were 22 graduates in dentistry and 28 in pharmacy, the total in the three departments being the largest number of graduates in the history of the school. On account of the raising of entrance requirements a few years ago, next year's senior class, the first to enter under the present standards, will not be

more than a third as large as is this year's senior medical class. The usual banquet was omitted this year.

The following is a list of appointments to hospitals:

Memorial Hospital, Richmond.—Drs. C. C. Coffindaffer, Clarksburg, W. Va.; J. S. Gilman, Richmond; J. M. Harwood, Petersburg; Joseph Heyman, New York, N. Y.; A. S. Lilly, Athens, W. Va.

St. Luke's Hospital, Richmond.—Drs. R. F. Thornhill, Slate Mills, and F. G. Woodruff, Sparta, N. C.

Stuart Circle Hospital, Richmond.—Drs. H. L. Large, Saltville, and E. T. Ames, Painter.

Grace Hospital, Richmond.—Dr. H. C. Wolfe, Greensboro, N. C.

Retreat for the Sick, Richmond.—Dr. J. D. Foltz, Richmond, and J. D. Clements, undergraduate.

Sheltering Arms Hospital, Richmond.—M. A. Hatcher and F. P. Gardner, undergraduates.

Johnston-Willis Sanitarium, Richmond.—Dr. H. S. Daniel, Jr., Louisa.

Soldier's Home Hospital, Richmond.—Dr. H. L. Large, Saltville.

Norfolk Protestant Hospital, Norfolk, Va.—Drs. C. J. Devine, Lexington; H. E. Brooks, Sunbury, N. C.; S. D. Williams, Norfolk.

St. Vincent's Hospital, Norfolk, Va.—Drs. E. B. Thompson, Lore City, O.; A. G. Horton, Wakefield, N. C.; R. F. Benthall, Ahoskie, N. C.; E. R. Altizer, Cambria; B. T. Swecker, Monterey.

Tucker Sanitarium, Richmond.—L. B. Chaney, undergraduate.

City Home Hospital, Richmond.—W. R. Bracey, O. L. Parker, A. B. Siewers, undergraduates.

Home for Incurables, Richmond.—W. A. O'Brien, undergraduate.

Hygeia Hospital, Richmond.—G. B. Dudley, undergraduate.

Sheltering Arms Hospital, Hansford, W. Va.—Drs. I. M. Derr, Newport News; J. C. Ford, Oak Hill, W. Va.; C. P. S. Ford, Oak Hill, W. Va.; E. C. McClees, Durham, N. C.; H. E. Whaley, Hampden-Sidney.

Philadelphia General Hospital, Philadelphia, Pa.—Dr. C. M. Hatcher, Lynchburg.

Northwestern General Hospital, Philadelphia, Pa.—Drs. W. I. Laughon, Bedford City, and S. T. Day, Jr., Port Norris, N. J.

Stetson Hospital, Philadelphia, Pa.—Drs. Campbell Harris, Richmond, and G. C. Snead, Lynchburg.

St. Joseph's Hospital, Lancaster, Pa.—Drs. D. S. Divers, Rocky Mount, Va., and J. L. McCabe, Elizabeth City, N. C.

York City Hospital, York, Pa.—Dr. A. G. Shetter, York, Pa.

St. Joseph's Hospital, Pittsburg, Pa.—Dr. R. J. Ford, Virgilina.

Franklin Square Hospital, Baltimore, Md.—Dr. H. S. Mitchell, Oakland, Md.

Pryor Hospital, Chester, S. C.—Dr. H. B. Thomas, Union, S. C.

Mattie Williams Hospital, Richlands, Va.—Dr. J. M. Ratliff, Marvin.

Catawba Sanitarium, Catawba, Va.—Dr. D. B. Cole, Chilhowie.

Oglethorpe Sanitarium, Savannah, Ga.—Dr. T. M. Vorbrinck, Salisbury, N. C.

Telfair Hospital, Savannah, Ga.—Dr. T. C. Lovelace, Mooresboro, N. C.

James Walker Memorial Hospital, Wilmington, N. C.—Drs. John E. Wine, Forestville, and G. C. Andes, Harrisonburg.

Shenandoah Hospital, Roanoke, Va.—Dr. Claudius McGowan, Greenville, N. C.

Auxilio Mutuo Hospital, San Juan, P. R.—Dr. Ramon M. Suarez, Loiza, P. R.

The Children's Hospital, Washington, D. C.—Dr. W. C. Thomas, Raeford, N. C.

Massachusetts General Hospital, Boston, Mass.—Dr. B. B. Jones, Danville.

U. S. Marine Hospital, Detroit, Mich.—Dr. H. G. Collins, Pennsylvania.

Harper Hospital, Detroit, Mich.—Dr. J. M. Cannon, Tulsa, Okla.

Riverside Hospital, New York, N. Y.—Drs. C. L. Outland, Woodland, N. C.; M. F. Boyles, Henry, N. C.; B. S. Brake, Jane Lew, W. Va.

Flushing Hospital, Flushing, N. Y.—Dr. A. S. Lowsley, Santa Barbara, Cal.

U. S. Marine Hospital, Buffalo, N. Y.—Dr. J. R. Parker, Fair Bluff, N. C.

Jewish Hospital, Cincinnati, Ohio.—Dr. R. G. Broaddus, Chance.

Cincinnati General Hospital, Cincinnati, Ohio.—Dr. F. C. Hodges, Tarboro, N. C.

Wousan Hospital, Wousan, Korea.—Dr. P. L. Hill, Jr., Elmont.

Graham Memorial Hospital, Kwang Ju, Korea.—Dr. J. M. Rogers, Amelia.

Southern Pacific Hospital, San Francisco, Calif.—Dr. E. V. Long, Woodville.

University of Virginia.

Exercises of the Medical Department of the University, always held in conjunction with those of the other departments, were even more marked in their simplicity than those of the Richmond school. Owing to the large number of students in the various departments enlisted for the country's service, it was deemed advisable to curtail the exercises decidedly. An address by President Alderman and the award of diplomas constituted the exercises held. Nine young women in the Nurses' Training School of the University Hospital were awarded diplomas. All of the twenty-three members of the senior medical class received diplomas of graduation and hospital appointments, which are as follows:

Boston City Hospital—Dr. Donald Stansbury Adams, of Indianapolis, Ind.

University of Virginia Hospital—Drs. Chester Allen Amos, Manassas, Va.; Kalford Wall Howard, Portsmouth, Va., and William Canova Peterson, Jr., Wilmington, N. C.

King's Count Hospital, Brooklyn, N. Y.—Drs. Richard Dabney Anderson, of Red Hill, Va.: Mason Romaine, Jr., Petersburg, Va.; Beverley Randolph Wellford, Jr., Richmond, Va.

United States Navy—Dr. Reuben Allen Barker, University, Va.

St. Luke's Hospital, New York—Dr. Henry Tayloe Compton, Roland Park, Md.

Vaughan Memorial Hospital, Selma, Ala.—Dr. Milner H. Eskew, Selma, Ala.

Staten Island Hospital, New York—Drs. Goodlatte Browne Gilmore, Hampton, Va.; William Baird McIllwaine, Ill., Petersburg, Va.

German Hospital, New York—Dr. Berryman Green, Jr., Theological Seminary, Va.

Post Graduate Hospital, New York—Drs. Charles Manley Griffith, Jr., Thomasville, N. C.: Walter G. H. Pott, Shanghai, China; George Palmer McNeill, Jr., University, Va.

Denver Hospital, Denver, Col.—Dr. George Emerson Gwinn, Lowell, W. Va.

Johns Hopkins Hospital, Baltimore—Dr. William Cecil Leavenworth, New Haven, Conn.

Philedalphia General Hospital—Dr. Howard Shield McCandlish, University, Va.

United States Navy—Dr. John Marion McCants, Guthriesville, S. C.

Hebrew Hospital, Baltimore—Dr. Samuel R. Newman, Richmond, Va.

Sarah Leigh Hospital, Norfolk, Va.—Dr. Simon B. Whitlock, Norfolk, Va.

United States Navy—Dr. Charles Strickland Norburn, Acton, N. C.

The William A. Herndon scholarship, founded in 1914 upon the bequest of Dr. Cumberland George Herndon, '72, U. S. N., in honor of his father, Dr. W. A. Herndon, '47, which is to be bestowed upon a young man who desires to enter the medical service of the army or navy, was awarded Donald MacKenzie Faulkner, of Boydton, Va.

Alumni Association, M. C. Va.

Dr. A. L. Tynes, Staunton, Va., as his presidential address, June 4, before the Alumni Association, Medical College of Virginia, gave a direct and forceful talk which it is believed will result in much good for the Association and the College. For his splendid work during the past year in arousing interest of the alumni in their Association, he was re-elected president for the ensuing year. Other officers are: Vice-presidents, Dr. A. E. Turman, Dr. J. A. C. Hoggan, Hugh Woolfolk, all of Richmond, and Dr. William Piloher, Petersburg; secretary, Dr. J. M. Hughes; assistant secretary, Dr. R. W. Miller; treasurer, Dr. F. H. Beadles, and registrar, Dr. B. H. Gray, the four last of Richmond. Following the election of this year's alumni as members of the Association, a buffet luncheon was served.

In the Symposium on "The War As It Affects the Physician, the Dentist and the Pharmacist," held on June 6, P. A. Surgeon Boland, U. S. N., spoke on "Medical Service in the Navy." This talk treated of remuneration, rank, retirement, pay and perquisites of the medical officer in the Navy. He stated authoritatively that there were no more members desired at this time in the Coast Defense Reserve (the branch in which naval medical reserve officers are incorporated), but that on or about January 1, 1918, there will probably be room for 3,000 more medical officers in the

Naval Reserve. He advocated regular naval service for the medical man's life work.

Dr. J. Mortimer Hughes spoke at length on "Duties of the Dental Surgeon." He read a report by Dr. Cushing, of the American Ambulance in France, on the importance of the dental surgeon and the fact that the regular military dentist was an innovation with which English and French were unprovided. They have adopted it from the Americans. At present, the Army authorizes one dentist to 1,000 enlisted men, but an effort is being made to get one to every 500. Special ambulance motor trucks are being made which carry the chair and dental laboratory from place to place for service on the front.

Dr. Stuart McGuire spoke for enlistments in the Medical Officers' Reserve Corps. He stated that if there are not enough volunteers, conscription will be resorted to.

Major J. Fulmer Bright spoke on the duty of every unattached man to volunteer, and of the importance and need of medical officers. He stated that of the 2,000 Virginia troops who went to the border last year, only two failed to return, one dying from a railroad accident, the other being murdered.

Dr. Giles Cook emphasized the importance of the medical officer and the future for pharmacists in the service.

Dr. A. L. Gray told of the seven depots established in the United States for teaching military Roentgenology, one being located in Richmond. The plan is to have a group of ten men each train for three months, at which time another group will take their place. All will be made thoroughly conversant with a standard X-ray machine which will be very portable.

This symposium, coming at a time when the thought of war was uppermost in every one's mind, proved to be most interesting and instructive.

Elected to Phi Beta Kappa Fraternity.

The following members of the Medical Department, University of Virginia, have been elected to membership in the University chapter of the Phi Beta Kappa Fraternity: Francis Milton Massie, Lexington, Ky.; Beverley Chew Smith, Franklin, La., and David Cole Wilson, Chattanooga, Tenn. From the alumni, Drs. George Tucker Harrison, Charlottesville, Va., and William Holland Wilmer, Washington, D. C., were elected members.

U. Va. Men Enter Reserve Medical Corps.

On May 29, sixty-one students of the University of Virginia passed the required physical examination and were mustered into the reserve medical corps. Twenty applicants were turned down, mainly on defective eyesight. The men accepted were ordered to report at an early date at Allentown, Pa., where the ambulance units from the various colleges will be mobilized. It is expected that they will leave for France the latter part of June.

The Bedford County (Va.) Medical Society

Held its regular quarterly meeting in Bedford, Va., May 28, 1917. The following officers were elected for the ensuing year: President, Dr. J. A. Pollard, Huddleston (re-elected); vice-president, Dr. B. A. Rice, Forest; secretary-treasurer, Dr. W. O. McCabe, Thaxton (re-elected).

The meeting was the best for several years. Dr Paulus A. Irving, secretary of the Medical Society of Virginia, was present and delivered an excellent address. Dr. Sam Wilson, of Lynchburg, a member of the Society, gave a most interesting talk on "Observations on Infantile Rheumatism." It was decided to meet in Bedford every fourth Monday afternoon instead of quarterly as heretofore. The Society now has a membership of twenty-six.

After the close of the business meeting, the Society gave a most delightful banquet at the Palace Hotel, which was thoroughly enjoyed by all.

Smyth County (Va.) Medical Society.

At the May meeting of this Society, following a paper by Dr. S. W. Dickinson, Marion, on "The Business Side of the Practice of Medicine," a committee was appointed to revise the fee table for doctors of that county. Upon request of Dr. Stuart McGuire, chairman of the Virginia Committee on Medical Preparedness, the doctors of this Society also organized for war purposes. The attendance was the best in the history of the Society.

Married—

Dr. Clifford Hood Arnold, Chester, Pa., and Miss Audrey Frayser Dillon, of this city, June

5. Dr. Arnold graduated from the Medical College of Virginia in 1913.

Dr. Armistead C. Crump, formerly of this city and a graduate of the University College of Medicine in 1903, but now of New York City, and Miss Jean Brevard Gannon, New Orleans, La., June 6.

Dr. Alan Jeffries Chenery, of Washington, D. C., forerly of Ashland, Va., and Miss Agnes Lyle Gary, Ashland, Va., June 9. Dr. Chenery was one of the students from the 1917 medical class, Medical College of Virginia, allowed to graduate in April to enter the naval reserve corps.

Dr. Ernest L. Bender, of North Carolina, and Miss Mary E. Strother, Richmond, June 2. Dr. Bender is now located at Roanoke, Va.

Dr. Robert C. Randolph,

Boyce, Va., has been the recent guest of friends in this city.

Medical Officers for Registration.

The following is a list of the medical officers who assisted in registration in the counties of Virginia, under the draft bill, June 5:

Drs. J. H. Ayres, Accomac; J. S. Davis, University; R. J. Yates, Alexandria; A. C. Jones, Covington; P. T. Southall, Amelia; G. T. Harris, Madison Heights; J. B. Abbitt, Appomattox; W. F. Hartman, Swoope; L. D. Pole, Hot Springs; J. A. Rucker, Bedford; J. M. Bland, Bland; P. K. Graybill, Fincastle; E. R. Turnbull, Lawrenceville; J. W. Waldron, Grundy; P. E. Tucker, Buckingham; H. P. Brown, Lynchburg, R. F. D.; John G. Broaddus, Bowling Green; J. A. Tipton, Hillsville; Ashton Harwood, Binns Hall; Ray A. Moore, Phenix; J. F. Ragland, Centralia; J. Edward Harris, Berryville; B. R. Caldwell, New Castle; Otis Marshall, Culpeper; C. Weisiger, Cumberland; W. H. Read, Clintwood; D. C. Mayes, Church Road; J. W. Hope, Hampton; J. M. Gouldin, Tappahannock; F. M. Brooks, Swetnam; S. Harnsberger, Catlett; E. L. Lawrence, Floyd; J. J. Nelson, Jr., Columbia; W. T. Chitwood, Rocky Mount; C. L. Anderson, Winchester; W. D. Woolwine, Pearisburg; H. A. Tabb, Gloucester; L. K. Leake, East Leake; M. C. Fields, Independence; Jesse Ewell, Ruckersville; G. B. Wood, Emporia; H. B. Melvin, Houston; A. C. Ray, Ashland; B. H. Martin, Rio Vista; J. M. Shackelford, Martinsville; C. B. Fox, Monterey; Rea Parker, Smithfield; H. U. Stephenson, Toano; V. O. Caruthers, Ferrell; R. D. Bates, Newtown; W. E. Croxton, Skyron; W. J. Newbill, Irvington; P. D. Pence, St. Charles; John A. Gibson, Leesburg; H. W. Porter, Louisa; E. L. Kendig, Victoria; J. N. Clore, Madison; C. C. White, Mathews; H. L. Burwell, Chase City; H. F. Hoskins, Saluda; W. H. Edmondson, Christiansburg; C. J. Riddick, Suffolk; Fred M. Horseley, Lovingston; J. R. Parker, Providence Forge; Sherwood Dix, Port Norfolk; C. L. Nottingham, Cape Charles; R. E. Booker, Lottsburg; Arthur Hooks, Blackstone; Louis Holladay, Orange; Virgil Hammer, Luray; R. S. Martin, Stuart; C. D. Bennett, Chatham; E. L. Tompkins, Fine Creek Mills; W. E. Anderson, Framville; W. B. Daniel, Disputanta; R. E. Whitehead, Norfolk; J. M. Lewis, Manassas; E. L. Sutherland, Dublin; J. G. Brown, Woodville; H. L. Segar, Warsaw; R. H. Garthright, Vinton; C. H. Davidson, Lexington; J. E. Lincoln, Lacy Spring; J. M. Taulbee, Honaker; C. D. Fugate, Clinchport; B. R. White, Strasburg; S. W. Dickinson, Marion; E. F. Reese, Courtland; W. A. Harris, Spotsylvania; E. M. Sneed, Stafford; C. W. Astrop, Surry; Joel Crawford, Yale; P. D. Johnston, Tazewell; W. S. Roy, Front Royal; H. W. Curtis, Denbigh; T. D. Hutton, Glade Spring; G. B. Harrison, Colonial Beach; W. S. Keister, Norton; P. B. Green, Wytheville; E. Peterson White, Odd.

In addition to the above, doctors appointed to assist in registration in Virginia cities were: Bristol, Dr. Geo. E. Wiley; Charlottesville, Dr. W. D. Macon; Clifton Forge, Dr. W. M. Revercomb; Danville, Dr. W. E. Jennings; Fredericksburg, Dr. F. C. Pratt; Lynchburg, Dr. E. Barksdale; Newport News, Dr. Louis Loeb; Norfolk, Drs. B. M. Baker, C. W. Doughtie and T. Edwin Baird; Petersburg, Dr. R. A. Martin; Radford, Dr. W. A. Wilson; Richmond, Drs. John Hinchman, E. T. Rucker, A. L. Wellford and Chas. V. Carrington; Roanoke, Dr. Thos. D. Armistead; Staunton, Dr. J. B. Catlett, and Winchester, Dr. Julian F. Ward.

Navy Has Ward in Norfolk Protestant Hospital.

The Navy Department has taken a ward of

sixty beds in the Protestant Hospital, Norfolk, Va.

Dr. John H. Ayres,

Of Accomac, Va., was a recent visitor to this city.

Dr. and Mrs. Charles L. Minor,

Asheville, N. C., have given an ambulance to the American Ambulance Corps in France.

Dr. and Mrs. Oscar L. Powell,

Onancock, Va., have been recent visitors in New York.

Dr. and Mrs. James N. Ellis,

Atlanta, Ga., have been on a visit to the doctor's old home in Buckingham County, Va. Dr. Ellis was at one time a practising physician in this city.

Dr. Charles H. Moncure

Has returned to his home in Orange, Va., after a visit to relatives in Asheville, N. C.

Some Virginia Doctors Who Have Enlisted.

The following is a list of Virginia doctors, not with the National Guard, as far as we have been able to learn them, who have enlisted for service: Dr. Stuart McGuire, Richmond, who will have the rank of major; Drs. Thos. F. Dodd, Alexandria; William J. Chewning, The Plains: J. N. Barney, Fredericksburg; L. S. Early, F. W. Hains, J. B. Halligan, J. Bolling Jones and H. A. Burke, Petersburg; Wm. A. Harris, Spotsylvania; Frank Hancock, Norfolk: Francis W. Upshur, Richmond; G. A. Ezekiel, Richmond; H. Taylor Hawkins, Irvington: Henry S. Stern, Richmond; Lonsdal J. Roper, Portsmouth; Beverley F. Eckles, Richmond, who has already been ordered to Governor's Island, N. Y.

Drs. Walter A. Wells, Washington, D. C.; Miles D. Chisholm, Westfield, Mass., who graduated from the University College of Medicine, this city, in 1900, and Norman R. Price, Marlinton, W. Va., have also entered the Government's service.

Medical Corps Has Heaviest Losses.

Contrary to popular opinion, the *Official Bulletin* issued by the Government, states that while perhaps the most thrilling branch, the air service of the army is not the most dangerous. Records of the allies put air service fourth in the percentage of losses. The heaviest losses have been in the Medical Corps, next in the Infantry, and third in the Artillery.

Dr. Emmett Bradley,

Who has been quite sick for sometime at his home at Highland Springs, just outside of this city, is much improved and will shortly resume his work.

Eugenic Marriage Law in New York.

We note from the *Journal of the A. M. A.*, that Governor Whitney, of New York, has signed the bill requiring that those who apply for marriage licenses in that State shall present affidavits showing that they are free from communicable disease, and that sworn statement shall show that the affiant has never had venereal disease. If this last clause be required, this is "some" law.

Dr. E. C. Register,

Editor of the *Charlotte Medical Journal*, who has been quite sick at a New York Hospital, has returned to his home much improved and hopes soon to be able to resume all of his professional and other duties.

Dr. and Mrs. Clifton M. Miller,

Richmond, were recently registered at Atlantic City, N. J.

Dr. and Mrs. R. P. Carr,

Norton, Va., were guests in Big Stone Gap, the latter part of May.

Shortage of Physicians Imminent.

Owing to the calls of the Army and Navy for physicians and the decreased number of graduates from the medical schools, America may shortly face a dearth of physicians. Requests are already being received at the Virginia Health Department from rural districts for physicians. For this reason, the Department urges upon the people of the State the necessity of taking advantage of all means for the prevention of disease that the available physicians can better devote their energies to patients suffering from non-preventable diseases.

Calls upon the medical profession in European countries have taken practically all of military age in some communities. We note that more than 250 physicians and surgeons from the neighborhood of Manchester, England, are serving in the army or navy, so that

it is estimated there are not more than five to ten doctors of military age and medically fit left in Manchester—a place prior to the war of about 550,000.

In our country, it has been announced that the army needs 5,000 doctors immediately and that by the end of the year, twice that number will be required. Ten medical officers are needed for every 1,000 men. Three camps for training doctors were started June 1 at Ft. Riley, Kan.; Ft. Benjamin Harrison, Ind., and Ft. Oglethorpe, Ga. A fourth camp is to be opened shortly. Six hundred doctors will be at camp under training for three months.

Dr. J. E. Tilman,

Rock Castle, Va., was a recent visitor in this city.

Dr. W. Nelson Mercer,

Of this city, during May visited Yorktown and Old Point, Va.

Dr. J. C. King,

Radford, Va., has been appointed by Governor Stuart a member of the board of the Eastern State Hospital, to fill the vacancy caused by the resignation of Charles A. Osborne. The appointment is until March 1, 1919, the date upon which Mr. Osborne's commission would have expired.

Dr. John W. Brown,

Recently of Hampton, Va., who, with about twenty other Americans, was taken prisoner when a horse boat was torpedoed by a German submarine, we understand is in a German detention camp for prisoners and is not allowed to communicate with friends.

Dr. Perkins Glover,

Arvonia, Va., and a friend, took a motor trip to Washington, D. C., the latter part of May.

N. C. State Board of Health.

Dr. J. Howell Way, Waynesville, N. C., has been appointed by the Governor as a member of the State Board of Health for a term of six years, succeeding himself. He has also been re-elected president of the Board. Dr. E. C. Register, Charlotte, has been appointed by the Governor as a new member to succeed Dr. W. O. Spencer, of Winston-Salem. The State Medical Society re-elected Drs. Chas. O'H. Laughinghouse, Greenville, and Thos. E. Anderson, Statesville, to succeed themselves for a term of six years.

Steam Yacht Given to Government.

The 400-ton steam yacht, "Surf," has been presented to the Government by Dr. John A. Harriss, of New York, and ordered to join the Atlantic Fleet as an ambulance ship. Dr. Harriss not only tendered the yacht to the government, but insisted that he be allowed to meet all its expenses during her war service. The "Surf" has berths for twenty-five patients and 100 more can be accommodated on her decks. Provision for operating rooms, medical stores and other necessaries for her war work have been made, and Red Cross nurses from Bellevue Hospital, New York, are already aboard. This yacht will be used for transferring sick and wounded from ships of the fighting fleet to hospital ships.

Dr. Frank G. Scott, Jr.,

Orange, Va., visited Charlottesville, the last of May.

Dr. William F. Drewry,

Petersburg, Va., was among those from this State attending the various medical meetings in New York City, early this month.

The Southside Virginia Medical Asscciation

Will hold its regular meeting in Suffolk, June 12. Drs. Joel Crawford, Yale, and E. F. Reese, Jr., Courtland, are president and secretary, respectively.

Your Patriotic Duty—Buy a Liberty Loan Bond.

The funds to prosecute the war should come from the men and women of the Nation at large, not from only certain classes. The Government desires not only that the five billion dollars of bonds be sold promptly but that these bonds be as widely distributed among the American people as is possible. To make it within the power of all to assist in the war, even if unable to go to the front, two kinds of Liberty Loan Bonds are being issued. These bonds which will bear interest at 3½ per annum and are non-taxable, except for inheritance tax, range from $50 to $100,000. They may be paid for in full upon purchase or may be paid for by 2 per cent. of purchase price upon application, with the balance by easy payments. The bonds may be bought at banks,

State and National, post-offices and express companies. It is almost as easy to purchase one of these bonds as it is to get a post-office money order. They are called the "Liberty Loan" bonds because they are the loans of a free people to be used in freeing the world. The faith and honor of the United States, backed by all the resources of the Nation and the American people are security for the bonds. The principal is repayable in 15 or 30 years, at the option of the government.

Dr. A. E. Turman,

Of this city, entertained the nurses of the various hospitals of the city at the Elks' Home on the evening of June 1. There were about 250 guests present.

Consider Doctor Problem in Richmond During War.

The Richmond Academy of Medicine and Surgery had a called meeting June 2, for the purpose of discussing measures to be taken by the local profession on account of the war situation. After much discussion, a committee was appointed to make a thorough investigation of the situation and recommend to the Academy some plan for the solution of the matter. The committee is composed of Drs. A. Murat Willis, H. Stuart MacLean, J. Allison Hodges, McGuire Newton, Clifton M. Miller, Edward McGuire and W. T. Oppenhimer.

Dr. Ira J. Haynes,

Richmond, of the W. B. Saunders Company, publishers, and Mrs. Haynes, were among those from this city to attend the meeting of the American Medical Association, having taken the trip to New York by water.

Dr. and Mrs. B. B. Bagby

Recently motored from their home in Tappahannock, Va., to Wilson, N. C., for a short visit.

Dr. James W. Kelly

And daughter, of Big Stone Gap, Va., have returned home after a short stay in Jacksonville, Fla.

The American Pediatric Society,

Which met at White Sulphur Springs, W. Va., May 28, 29 and 30, decided to hold their next annual meeting at Lenox, Mass., and elected Dr. Linnaeus L. La Fetra, New York City, president, and Dr. Howard Childs Carpenter, Philadelphia, secretary.

N. & W. Ry. Surgeons' Association Not To Meet.

Owing to the unusual conditions in which this country has been placed on account of the entrance of the United States into the European war, the management of the Norfolk and Western Railway Company, after due deliberation, decided that it was not advisable for the surgeons to have their annual meeting in June as has been customary. By foregoing this pleasure, they will in a small measure demonstarte their patriotism.

State Committee of National Defense.

The following are the Virginia doctors who compose the State Committee of National Defense: Drs. Stuart McGuire, L. C. Bosher, Samuel C. Bowen, Robert C. Bryan, Giles B. Cook, J. Shelton Horsley, Douglas Vander-Hoof and Ennion G. Williams, of Richmond; Dr. Geo. A. Stover, South Boston; Dr. P. A. Irving, Farmville; J. N. Barney, Fredericksburg; Lomax Gwathmey and Southgate Leigh, Norfolk; Wilbur M. Phelps, Staunton, and G. K. Vanderslice, Phoebus.

War-Time Prohibition.

Profiting by the experience of European nations, an effort is being made in this country to have war-time prohibition. The three big reasons given for this are: food, efficiency, health. Many of the Nation's most prominent men endorse the movement. It is stated that "eleven million loaves a day is the amount of food values going into the manufacture of liquors." The conservation of the material used in the manufacture of liquors to be applied to food-stuffs and the purposes to which it may be applied chemically by the government should be sufficient for the endorsement of the movement for war-time prohibition.

In this connection, it may be interesting to note that the Ohio State Medical Association, at its May meeting, went on record as unanimously favoring nation-wide prohibition.

Pittsburgh Doctors To Be Paid While Absent.

The auxiliary medical council for the national defense of Allegheny County, Pennsylvania, announces that Pittsburgh doctors who enter military service will receive 35 per cent. of the income from their private practice while

they are absent, their work being attended to by doctors who remain at home. About 200 doctors from that section have already been commissioned.

Dr. H. Aulick Burke,

Of Petersburg, Va., who several weeks ago enlisted in the naval medical reserve corps, has been assigned to the Naval Hospital, Washington, D. C., and left for his post of duty the last of May.

Dr. Roshier W. Miller

Is to be instructor of a first aid class shortly to be started in Barton Heights, this city.

Dr. Irvine's Son Injured.

Meade Irvine, 16-year-old son of Dr. J. Sinkler Irvine, of Evington, Va., suffered severe and dangerous injuries, the latter part of May, by having his buggy run into by a large touring car. He was taken to his home in an unconscious condition, in which he remained for some hours.

School of Military Roentgenology for Richmond.

Richmond has been selected by the preparedness committee of the American Roentgen Ray Society as one of the seven cities in the United States in which will be established a school of military roentgenology. Dr. A. L. Gray, of this city, with the rank of major, will be in charge of the school and will have as his assistant, Dr. D. D. Talley, also of Richmond. In addition to the parent school in New York, schools will be located in Richmond, Springfield, Mass.; Philadelphia, Pittsburgh, Baltimore, Chicago and Kansas City. Instructors in the schools will be given a two weeks' course in military roentgenology at the New York headquarters. The course of instruction in the branch schools is to be for three months, members of the medical officers' reserve corps to be detailed by the surgeon-general's office for the instruction. It is said that the government will be in need of 100 or more roentgenologists by the fall or sooner.

Appeal to Doctors.

Dr. Joseph C. Bloodgood, Baltimore, chairman of the committee on medical preparedness, Southern Medical Association, says "It is the unescapable duty of every member of the profession under the age of fifty-five years to volunteer his services to the government." He suggests that medical men should as far as possible offer their services through the committee of their State, bearing in mind that the military situation comes first at this time.

Dr. Tom A. Williams,

A well-known neurologist of Washington, D. C., has received an appointment from the French government as a neurologist on its medical staff, and will leave for his post of duty the latter part of this month.

Dr. and Mrs. Frank M. Dillard,

Mineral, Va., were recent visitors to Richmond.

Dr. and Mrs. J. M. T. Finney,

Baltimore, Md., were visitors at The Chamberlin, Old Point, Va., in May.

Dr. Ernest L. Griffith,

Clifton Forge, Va., who has joined the medical corps of the navy, left late in May for Cleveland, O., to which place he had been ordered.

Civilian Doctors Inspect Hospital Ships.

In view of the criticism recently made by several enlisted men of conditions on the hospital ship, "Solace," Secretary of the Navy Daniels has requested that a civilian commission, composed of Drs. Simon Flexner, New York, William H. Welch, Baltimore, and Mr. Nathan Straus, New York, inspect the "Solace" and other naval vessels, to form their own conclusions as to the Navy's methods of handling sick sailors. Admiral Mayo is conducting an investigation of the charges made and Surgeon-General Braisted started at once to make a personal inspection of the fleet.

The National Association for the Study and Prevention of Tuberculosis,

At its recent meeting, among other things declared in favor of national prohibition during the period of the war and for a year thereafter, and appointed a committee of three to arrange plans for dealing with the tuberculosis problem in the future army of the United States. The following officers were elected: President, Dr. Charles L. Minor, Asheville, N. C.; vice-presidents, Drs. Frederick L. Hoffman, Newark, N. J., and David R. Lyman, Wallingford, Conn.; secretary, Dr. Henry Barton Jacobs, Baltimore, Md.; treasurer, Dr. William M. Baldwin, Washington, D. C. Col.

Theodore Roosevelt and Sir William Osler were elected honorary vice-presidents.

2,000 Medical Officers Will Be Needed for Greater Navy.

The Navy Department authorizes the statement that more than 2,000 medical officers will be required to care for the greater Navy Marine Corps, Naval Reserve and coast defense forces, the Naval Aeronautic Corps, Hospital Corps and auxiliaries. When all these branches are recruited to their full strength, the Naval Medical Corps will have to care for more than 250,000 men.

Dr. Ramon D. Garcin,

For the past fifteen years physician to the Masonic Home of Virginia, located just outside of this city, has been made an honorary member of the Alumni Association of the Home.

Dr. Robert C. Bryan

Delivered certificates on the evening of May 30 to those who took the Red Cross lectures in the classes at the Y. W. C. A., this city.

Richmond Chapter Alumni Association, M. C. Va.

The latter part of May, a number of the resident graduates in the departments of medicine, dentistry and pharmacy met to organize the above chapter of the Alumni Association of the Medical College of Virginia. Dr. J. Garnett Nelson was unanimously chosen president. Other officers elected were vice-presidents, Dr. J. M. Hughes and M. H. Huffman; secretary-treasurer, Dr. R. W. Miller. Committees were appointed to draft the constitution and by-laws. The object of the organization is to bring the local graduates into more active and vital touch with the work of the College.

Dr. Frank W. Lewis,

Of Morattico, Va., presided at a meeting held at Lancaster C. H., May 31, to organize a council of safety for Mantau magisterial district.

American Red Cross Hospital Opened in Paris.

President and Mme. Poincaire formally opened the American Red Cross Hospital in Paris, May 31. The President conferred the Legion of Honor on Dr. Joseph Blake, of New York, organizer of the hospital.

Dr. J. D. Osborne,

Petersburg, Va., is giving first aid lectures before a class formed by the Red Cross Society in that city.

The Virginia State Board of Examiners for Nurses

Will hold its semi-annual examinations at the Medical College of Virginia, this city, June 27, 28 and 29. Applications, with fee of $10, must be filed with the secretary, Miss Julia Mellichamp, R. N., Pulaski, Va., not later than June 12.

Contagious Disease Hospital Soon To be Under Way.

The razing of the buildings at Fourteenth and Marshall streets, this city, was undertaken the last of May, in order that the construction of the new hospital for contagious diseases could be started. This building, which is to be one of the units of Memorial Hospital, is to be four stories in height and will cost $60,000, exclusive of equipment and furnishings. It is to be ready for occupancy by next winter. The building for colored patients, which will cost $160,000, is nearing completion.

Large Number of Nurses Wanted For Red Cross.

Appeal has been made to the American Red Cross for 600 nurses to be sent to France. It is desired that 200 nurses a month be sent from the United States during June, July and August. Virginia is expected to furnish 30 nurses of the 600, who will sail in groups of ten. A number have volunteered for service.

Dr. and Mrs. James A. Rice

Have returned to their home in Heathsville, Va., after a trip to Baltimore, Md.

Dr. John N. Upshur,

Of this city, delivered the address on the occasion of the annual memorial day exercises of Confederate Veterans and Sons of Veterans in Lexington, Va., June 2.

Dr. Raymond H. Brockwell,

Richmond, made the high amateur card at the May shoot of the West End Gun Club of Richmond.

Richmond School of Social Economy.

Dr. Roy K. Flannagan, health officer of Richmond, was elected chairman of the faculty of the Richmond School of Social Economy. Other doctors who are members of the executive committee and faculty are Drs. Ennion G. Williams, B. E. Summers and W. A. Brumfield.

Johns Hopkins Medical School Receives More Money.

Once more the purse strings of John D. Rockefeller have been opened and, in addition to other donations, a gift of $350,000 was made the Johns Hopkins Medical School, Baltimore.

Nurses Graduate.

At the commencement exercises of the Training School for Nurses of the Retreat for the Sick, Richmond, on May 24, five nurses were awarded diplomas, Dr. W. T. Oppenhimer making the presentations. Dr. B. M. Rosebro awarded the class pins and internes' certificates. The internes who completed a year of successful service are Drs. Casper Walker Jennings and T. Olcott Summers.

Virginia Health Service Complimented.

In the annual report of the State Health Department appears a compliment from the U. S. Public Health Service men who checked up the work of the Virginia officers in charge of malaria control at Wilson, Dinwiddie County. They declare the work done by the Virginia men to be better than that done by the U. S. Service in Panama, which is supposed to have been among the best work in health and sanitation.

The Library of the Medical College of Virginia.

The Library of the Medical College of Virginia has been growing very rapidly for several years, not only in size, but also in value and efficiency. It now contains everything necessary for working up a complete bibliography of any medical subject. For example, it has complete sets of the Catalogue of the Surgeon-General's Library, the Index Medicus, the Journal of the American Medical Association, International Abstract of Surgery and Chemical Abstracts. It is rapidly completing its files of important periodicals so that many references may be consulted, at once in the original. Any reference not on the shelves can be obtained as an interlibrary loan from the Library of the Surgeon-General's Office, Washington. The library is open to physicians (whether connected with the College or not) from 9 to 5 daily, Saturdays from 9 to 1, during the college session. Physicians also are invited to make use of the Library as a reading room. About one hundred and forty-five periodicals are taken. Miss McRae, in charge, will gladly give all assistance possible, or, for a moderate fee, will undertake to prepare bibliographies or to look up any subject desired. During the vacation, when the library will be closed, she will hold herself in readiness to open up if called on for any special work.

Obituary Record.

Ephraim Cutter, A. M., M. D., LL. D.

Doctor Cutter, a frequent contributor to the *Virginia Medical Monthly*, was born at Woburn, September 1, 1832, and died at West Falmouth, Massachusetts, April 24, 1917. Fitted for college at Warren Academy; B. A., 1852, and M. A., 1855, Yale; M. D., Harvard, 1856, and University of Pennsylvania, 1857; LL. D., Grinnell College, 1887. Member of many American and foreign scientific societies; contributor of over six hundred writings to medicine and collateral arts and sciences; discoverer, developer and inventor of procedures, instruments and operations in laryngology, gynecology, general medicine and surgery. Preceptors in medicine: his father, Benjamin Cutter, Oliver Wendell Holmes, Henry I. Bowditch and Josiah P. Cooke. While in Yale College, took the special course in chemistry at the newly opened Sheffield Scientific School.

In Europe, 1862, presenting virtues and values of veratrum viride; 1889, delegate American Medical Association at the British meeting, responding for America in the banquet in Leeds Town Hall. 1890, in attendance Tenth International Medical Congress; presented communications on Food and Tubercle; Electrolysis of Tumors; Food in the Treatment of Fibroids; Physical Causes of Heart Disease, and Cutter's Stem Pessary. Of the

250 guests to the Imperial Reception at Potsdam, he was one.

In practice, Woburn, 1856-75, doing laryngological work in Boston, the latter part of that period; Cambridge and Boston, 1875-81; New York, 1881-1901, then making his home at West Falmouth on Buzzard's Bay, till his translation after two days of partial consciousness from cerebral hemorrhage.

His father dying in 1864, on the son, now among the dead, was a heavy general practice—yet he went into one specialty and another. Elsberg and J. Solis Cohen came to his native town, from New York and Philadelphia, to see him do his operation of thyrotomy without tracheotomy.

In 1859, he had Alvan Clarke make him a laryngoscope which he cared little about; in 1862, Semeleder, in Vienna, and Czermak, in Paris, he foregathered with and on his return had his laryngoscopes made by his tin smith. Czermak's photography of his own larynx did not include the thyroid insertion. Ephraim Cutter, in 1866, completed the work, getting the anterior insertion of the cords of his own larynx.

Studying under Hodge in gynecology, he yet later controverted Hodge's principles by inventing a series of pessaries which, under careful, persistent usage, were of high therapeutic value and netted the manufacturer large profits; their use was sadly superseded by the over-wave of surgery; while in country practice he made profound investigations on the use of galvanism of uterine fibroids; this therapeutical value was also overswept by surgery. In 1862, he demonstrated that kine be vaccinated as a source of virus. This method he called retro-vaccination. Invented three forms of the clinical microscope, 1869-75, which simplify microscopy, making clinical work at the bedside, in cars, on the seas, in hospitals, etc., direct and of ease and allow of the use of the higher powered lenses, 1-50th and 1-7th in photography. In 1869, he used a new metallic suture; 1870, ecrazeur for removal of growths from deep cavities; 1871, new Eustachian catheter; 1874, invalid bed for anchylosis of both hips; 1866, retractors for thyrotomy; 1875, galvano-caustic holders; 1873, invalid chair; 1874, active and passive inhaler for nascent chloride of ammonium; 1870, generation of steam from atomized fluids; 1870, new ear speculum; 1868, new attachment of sponge to bougies; 1873, digital thoracentesis.

Disabled by twice fractured left patella in 1873, for thereafter he could not run, he moved to Cambridge in 1875; here followed highly important work on the morphologies of the blood, sputum, etc. George B. Harriman, D. D. S., owned a series of Tolles' objectives and had gotten by great compulsion the objective maker to construct the 1-75th; Harriman could not use it on blood; Cutter did; the two men, in 1876, went to the task of photography of blood in health and tuberculosis, Cutter designing apparatus; this work antedated Metchnikoff's leucocytosis by nearly ten years. Ephraim Cutter did further work in photographies of blood, alcoholic yeasts, starch, dust, cotton, lard, soap, in some lines working up to the 1-75th. A singularly interesting series was of the action of the alcohol plant on barley.

There was much writing on the management of tuberculosis; this aroused trouble. If a case was helped, it was not tubercle; if one died, suits were threatened. This American's work has yet to be in full published. The world-wide adoration of Koch's discovery as having settled for all time (!) the tubercle question, put the American on the side. One matter only, in 1894, Ephraim Cutter examined morphologically the capillary blood of a herd of cattle condemned to death for tuberculosis; clinical microscope; candle light illumination; his notes were sealed under numbers and sent to the state veterinarian of Massachusetts, Dr. Austin Peters, who superintended the post-mortems; both series of findings agreed.

Profound studies were made morphologically on hydrant, lake, pond, well and spring waters, and this fore-running American morphologist was called into court to give testimony in civil actions. Being much interested in the early decay of his children's teeth, over forty years ago he antedated the present crucade against "decorticated, denatured wheat and wheat flours" (as so well put by Dr. Wi-

ley) and aroused the ire of Mrs. Eddy to such an extent that she animadverted on him in several editions of her so-called "Science and Health." Cancer he defined over thirty years ago as tissue under mob law, tissue rioting in the body systemic. The terminology of "itis" and the confusion of medical minds led him to write a short book on "The Fatty Ills and Their Masquerades" and several articles on the "Fatty and Fibroid Degenerations;" these penetrated into medical pedagogics, and degenerative diseases are known as such even if yet misnamed.

In the eighties, we find work on the "Vegetable Nature of Croup;" morphologic studies of melted ice, and profound investigations on neurasthenia in men, finally noting a definite cause, such finding due to previous extensive studies on colloids, protoplasms, morphologically. This work is of importance with the present high pressure diagnoses running rampant; the careful discriminating modern medical writer deplores the infatuation of the laity in this matter. Ephraim Cutter's work gives a technical basis outside of common sense signs, that many of these cases of high blood pressure are nerve tension conditions due to depleted nerve centre supples. Further the story in its wholeness, as man gets things whole, on the management of real arteriosclerosis is yet to be told; this dead man's work needs exemplification.

Ephraim Cutter was of the philosophy of Leonardo da Vinci, which knew not commercialism nor personal politics; both men died without pelf and both left great gifts to humanity, Leonardo in his sixties, and Cutter in his eighties, though affected for years by chronic Bright's. Cutter's ideas on intestinal fermentation based on his profound studies of protoplasms, cryptogamia and the human body, and his experience in the management of disease, were opposed to the dicta of Metchnikoff, whom he outlived by twelve years. It might be thought that the man who did so much work on the morphologies of the blood and potable swaters, to name no more, would know nothing of the humanities of medicine, but such was not so. The almost meticulous point of view of so many laboratory workers, which may be likened to a man with a shotgun trying to hit a knot hole in the middle of a barn door and not even striking the door, was deplored by this physician; his attitude, despite his forerunning, prophetical laboratory work without the aid of college, university or endowment, was that of the naturalist,—that the medical man must fearlessly make his diagnosis after thorough examination, and then apply with patience and courage the general and special principles of treatment.

The following instances are illustrative: In a middle-aged woman 250 miles away, a correct diagnosis of cancer of the liver was based on mahogany-colored urine and free blood cells in same. A diagnosis of cancer of the kidney was also based on finding atypical heterologous cells in urine; autopsy confirmed. A middle-aged man some eight thousand miles away, suffering from chronic intestinal trouble (tuberculosis), was managed on the basis of chemistry and morphology of urine and feces; the man lived to die twenty-five years later under unnecessary departmented, specialistic surgery—in the meantime he had completed work which brought him imperishable fame. Autopsy revealed lung tuberculosis, scarred and healed.

The last two decades were spent by Ephraim Cutter in caring for patients, correspondence, and laying down foundations for future work especially on the management of grave cases of chronic disease and, further, their detection in the pre-stages. A synthesist as well analyst, it might have been better for the world if he had been born a little later, for his type of intellect is sorely needed in the highly desired restoration of general medicine to its ancient dignity and usefulness.

Dr. Cutter is survived by his widow; his brother, William Richard, an historian and librarian, and his sons, Ephraim, a musical director in Boston, and Jonn Ashburton Cutter, M. D., of New York City.

Dr. Thomas J. Hoskins,

Aged fifty-three years, and a graduate of the University of Virginia in 1886, died at his home in Edenton, N. C., the latter part of May. Two daughters survive him.

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SYMPOSIUM ON RIGHT-SIDED ABDOMINAL PAIN.

APPENDICITIS.*

By L. H. REICHELDERFER, M. D., Washington, D. C.

In practically every case of acute appendicitis the diagnosis can be made from a more or less constant triad of symptoms, namely, pain, nausea and vomiting, tenderness and rigidity.

The pain is probably the first symptom in all cases of appendicitis, but unfortunately it is by no means the most valuable in making the diagnosis, and cannot be considered alone in making such a diagnosis. As a matter of fact, there is no single point perhaps on which to base a diagnosis of appendicitis, but of all of them no doubt the presecne of tenderness and abnormal rigidity would be the one upon which a diagnosis could be most safely made,—certainly, not the pain.

The pain, as we are always told, of course, is often general at first, but with a tendency to become localized, within perhaps a few hours, in the right iliac fossa, except in cases where the appendix is very abnormally placed, as, for instance, high up near the liver, or well down in the pelvis; where we have failure of rotation of the colon we may have the appendix in almost any part of the abdomen. These cases where the appendix is high up near the liver would be mistaken for gallstones or some gall-bladder condition, or, on the other hand, where the appendix is placed low down near the pelvis, these would be the cases where it would be impossible to differentiate from salpingitis. As a rule, however, the pain in these cases, while around the middle of the abdomen at first, usually tends to localize, and that is a strong point in favor of appendicitis. However, in fully half the cases the pain is localized from the start and remains so.

This pain as a rule I think we find to be sudden in its onset, of rather considerable severity, and in the beginning is more or less colicky. This characteristic rather tends to disappear as the case goes on. I suppose it is due to the effort of the appendix to expel the contents, or to the passage of gas past an inflamed area. As adhesions take place or abscess forms no doubt this would disappear.

The pain, while very severe in many cases, is not as bad as renal or biliary colics, or the various perforations, and, of course, is not accompanied by the shock which goes with the severe pain with these other conditions; because we do not as a rule in the beginning of appendicitis have symptoms of shock.

There is not as a rule very much radiation in the pain of appendicitis. I mean to say it is more constant in its location than the pain of biliary conditions. After a few hours the pain is fairly fixed in its location, and as a rule does not radiate.

When there is lessening of the pain, unless the patient improves, we are taught to suspect abscess or gangrene. A suddenly lessened pain, unless the patient's condition improves, probably indicates gangrene, perforation or rupture of an abscess.

Abdominal pain which is associated with fever of 103 degrees or over is probably not due to appendicitis. High temperatures in appendicitis are by no means the rule, and if they are high, if we find a temperature of 103 degrees or over I think we ought to think of typhoid fever or pneumonia, and especially in children do we find pneumonia confusing the

*Read as a part of the Symposium on Right-Sided Abdominal Pain before the Medical Society of Northern Virginia and the District of Columbia, at Washington, D. C., November 15, 1916.

picture. In our service at the Children's Hospital we have any number of these cases sent in for appendicitis which turn out to be pneumonia.

We should not forget the value of rectal and vaginal examinations in these cases.

In conclusion, we must say the diagnosis of appendicitis cannot rest upon the pain alone, but must be checked up by the tenderness and spasm and perhaps the leucocyte count.

1721 *Connecticut Avenue, N. W.*

RENAL LESIONS.*

By FRANCIS R. HAGNER, M. D., Washington, D. C.

I have been given renal lesions, and it is such a big subject that in the time allowed I can only mention in a few words the conditions that cause pain in the right side of the abdomen. The other gentlemen have definite things pointed out for them to speak on, but mine is a rather general subject.

I will first speak of the conditions outside of the kidney that give rise to pain. I will first speak of perinephritic abscess. This may cause right-sided pain that may simulate appendicitis or almost any condition present in the right side of the abdomen. In fact, many of these perinephritic abscesses (for they generally come from a hematogenous or lymphogenous infection of the kidney) are due to appendicitis in the beginning. We have operated upon two cases due to colon infection, that began as an appendicitis, the colon being misplaced and the abscess forming around the kidney. Of course, the fever and the leucocyte findings are rather suggestive of appendicitis, and the urinary findings in these cases are very indefinite usually, unless there is some connection of a hematogenous or a lymphogenous origin, or there is some connection with the pelvis of the kidney. If you catheterize the ureter you may find only a few red cells. Of course, the tumor mass which appears later in the disease clears up the diagnosis.

Rupture of the kidney is, of course, caused by traumatism, and there is usually a history of traumatism in those cases. We must remember that rupture of the kidney is sometimes due to very slight exertion—cranking a machine or a misstep. I will not go into the cause of that. The kidney is full of blood and so constructed that slight jars at times will cause a rupture. These cases of ruptured kidney nearly always have blood in the urine, and that can be always found out by examination of the urine and ureteral catheterization.

The twisting of the pedicle of the kidney, the so-called Dietl's crisis, is also one of the causes of right-sided pain. It is a large subject and I will not go into it.

Now, the conditions within the kidney that cause right-sided pain. Calculi are one of the prime causes, and this is a condition that is unquestionably at times mistaken for appendicitis. There are two kinds of calculi, the silent calculus and the movable calculus. The silent calculus causes very few symptoms; all the symptoms will be vesical in character. On the other hand, if the calculus is movable in the pelvis of the kidney and causes any blocking up of urine, then the patient has typical attacks of renal or ureteral colic, depenidng on the location of the calculus. It is the backing up of the urine that causes the principal pain in these cases. Of course, these cases nearly all have blood in the urine, and ureteral examination and the X-ray will clear up the diagnosis in these cases.

In neoplasms of the kidney pain comes on usually late in the disease, because it is due to pressure on the lumbar plexus of nerves, and when these patients have pain they nearly all of them have had hemorrhage and blood in the urine or some other condition that calls attention to the kidney condition before the tumor can be definitely made out by palpation.

Hydronephrosis is another cause of right-sided pain, and in differentiating it from inflammatory diseases of the abdomen we should remember that these patients have very little if any fever, and most of them have no leucocytosis, which you do have in the inflammatory conditions of the abdominal cavity. If you can get by the obstruction with the ureteral catheter the urine will run out in a stream instead of intermitting, as it does under normal conditions.

Pyonephrosis is diagnosed by finding pus in the urine collected from the ureteral catheter.

The same applies to pyelitis.

Of course, pyonephroses are more or less

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chronic. Pyelitis is more acute. These cases have abdominal pain and leucocytosis, and may be mistaken for appendicitis or some other acute abdominal condition. But these cases do not have the muscle spasm that we usually have in appendicitis. They have pain, maybe in front, or usually you get the pain when you put the hand well back between the twelfth rib and the crest of the ilium. But they do not usually have the muscle spasm that you have in appendicitis. Of course, they have the leucocytosis and fever, as you have in the other inflammatory conditions.

Now the thing that you probably more often mistake for appendicitis is ureteral calculus with infection. Where you have a pyelitis with ureteral calculus—I have operated on two or three of those cases where they had previously been operated on for appendicitis and the surgeon told the patient he found very little the matter with the appendix. Operation on the ureteral calculus was followed by recovery. If we have a case of right-sided pain with blood in the urine I think we ought to have the patient cystoscoped and the ureters catheterized and an X-ray taken to be sure that that patient hasn't a stone instead of appendicitis. It does not take very long to do that, and I think it will certainly prevent these mistakes that have been made in diagnosis.

There is just one condition that I want to call attention to that I have not mentioned yet. That is acute seminal vesiculitis. We have had four or five of these cases that have had right-sided abdominal pain, colicky in character, and the patients themselves thought they were getting appendicitis, but on examination we found a large, boggy seminal vesicle. The emptying of the vesicle will absolutely relieve the pain in these cases. I want to make a plea for rectal examination in all abdominal conditions. I do not believe we ought to diagnose any abdominal condition without making a rectal examination, because in many cases it will clear up a condition that we cannot possibly recognize without a rectal examination.

The Farragut, 17th and I Streets.

The ingestion of wood alcohol may produce blindness.

SALPINGITIS.*

By A. L. STAVELY, M. D., Washington, D. C.

While Dr. Hagner was talking I was reminded of an experience of a few years ago where I made a diagnosis of appendicitis, removed an apparently normal appendix, the patient was not relieved, made another examination by vagina and found the explanation there: on the right side, high up, there was a small calculus imbedded in the cystic end of the ureter, and I had no difficulty, by making an incision in the vaginal vault, in removing the stone. But that, probably, as I look back to it, was a case of carelessness in diagnosis.

In regard to the subject of salpingitis, I will confine my remarks to salpingitis and the few conditions in the pelvis which simulate it.

We may have mild cases where there is no particular pelvic reaction, practically no symptomatology. In some of the catarrhal forms of salpingitis there may be no fever. We may have a more active form of the catarrhal type where there is some fever, pain over Poupart's ligament and some local manifestations. In the acute form of purulent salpingitis we may have a history of infection, inaugurated with a chill, more decided local pain and pain in the back running down to the legs, and there is almost always in salpingitis a differential consideration in the fact that we usually have other corroborative symptoms which lead us to the belief that the condition we have is salpingitis; that is, most of them are of gonorrhoeal origin, and by an examination of the external genitalia and the cervix we may find the same corroborative evidence or a suspicion that the tube may be involved. Of course, a history of preceding urethritis and of a cervical discharge, maybe an endometritis or a tender uterus, would go to make up a definite picture.

In regard to the other things which may be considered, we have, for instance, an ovarian tumor with a twisted pedicle, or a fibroid with a twisted pedicle. They may both be considered together. Usually when this accident occurs the tumor is of moderate size, has a long pedicle and is capable of a certain amount of mobility. The pedicle becomes twisted, and the

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symptoms vary according to the amount of torsion. We may have slight torsion of the pedicle with mild symptoms, or we may have two or three turns, where the circulation is entirely obstructed, and in that kind of a condition we have very acute pain, with sometimes symptoms of collapse, and if the condition is not corrected (as it sometimes is, but more apt not to be), we will have develop symptoms of local peritonitis, the tumor becomes gangrenous, and septic conditions may develop and abscess form. In getting at this the advantage of a previous examination, of course, is apparent, first the recognition of the cyst, and on later examination we find the same kind of a mass, only very much more sensitive. I have had one or two cases of twisted fibroids in the pelvis which have given the same symptoms as with cysts, with evident obstruction of the circulation and beginning gangrene and peritonitis.

Another condition is tubal pregnancy, which is sometimes very difficult to recognize. Of course, in typical cases it is not a difficult matter. In tubal pregnancy we have usually a missed menstrual period, sometimes more than one, followed by an irregular flow, sometimes with hemorrhage, sometimes an irregular flow extending over a long period of time. Where there is an escape of blood into the peritoneal cavity we may have a little pain. Where there is a slow leakage of blood we have very little pain, a little shock, often a local peritonitis. In the more severe cases where there is larger hemorrhage, of course, we have a more acute pain, we have more shock, we have hemorrhage and the symptoms of hemorrhage, and in those cases, of course, we become immediately suspicious. On digital examination we find the usual evidences of a tubal involvement, according to the stage of the pregnancy. There is usually an enlargement of the tube, and in the early stage the tube is often exquisitely sensitive. The tumor may be strictly localized, easily felt, according to the amount of tension may be doughy or firmly resistant. Of course, with tubal pregnancy we may have an effusion of blood into the pelvic cavity, and this may not be recognizable, because at the beginning the blood is fluid. Perhaps after a day or so we find a decided coagulation of the blood and a condensation of clots which are more or less apparent on vaginal examination.

Then appendicitis is another condition which has to be differentiated.

1744 *M Street, N. W.*

REFLEX PAIN FROM CHEST.*

By JOHN D. THOMAS, M. D., Washington, D. C.

The question of involvement of the chest in these cases of right-sided pain is somewhat of a modern subject. Up to ten years ago the surgeons at least knew very little of this symptom-complex of involvement of the lungs and pleura in right-sided pain. I had occasion about 1907 to write a paper upon this condition, particularly in children, and in looking up the subject I found that not more than two or three of the surgeries at that time recognized it at all. As you have heard from the other gentlemen, particularly Dr. Reichelderfer, it has become very much more prominent, and men have realized the fact that the conditions in the lungs and pleura are able to mask those other symptoms of right-sided pain. Many of these cases have been operated upon for appendicitis and for other diseases in the peritoneal cavity. The danger from an operation in these cases, of course, it very great. In those cases that have lung disease, particularly pneumonia, operation is, of course, contraindicated, and the differential diagnosis of these cases then becomes quite important to prevent an operation in a case in which it will do a great deal of harm,—more harm than good.

The necessity, then, for a differential diagnosis is evident where there is a possibility of the seat of the pain being in the lungs. Sometimes it is almost impossible to make a correct diagnosis.

The conscientious surgeon's view of the difficulties and responsibilities in cases of this kind are most admirably expressed by Dr. Richardson in commenting upon a series of cases reported by him. In speaking of one case which he saw in consultation and in which the pneumonic signs did not appear until the fifth day and the abdominal symptoms simulating appendicitis were very marked, he says:

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"I have, however, known the abdomen to be opened many times on less evidence of appendicitis than there was in this case and the appendix found gangrenous and perforated. On the other hand, I have never seen a case presenting obscure abdominal symptoms of appendicitis, with plain symptoms of acute thoracic disease, in which the latter have not been the chief and only cause for the former." But he then goes on to say further that the cases where the atypical symptoms occur as against those of real appendicitis are one to a hundred, and that: "If in case of doubt the rule is to operate, more lives will be saved than if the rule is not to operate." He says the diagnosis between thoracic and abdominal disease is easy as soon as the characteristic signs are present, and further that "the chief difficulty in making a distinction is to recognize that the necessity for that distinction exists, for the thoracic symptoms are always masked by the more conspicuous and distressing abdominal ones."

So that you can see it is sometimes almost impossible to make a diagnosis in some of these cases where the signs are masked. In attempting to make a differential diagnosis in these cases it is well to remember why it is we have these pains on the right side of the abdomen with a lesion in the lungs or pleura. Some years ago Capps, of Chicago, made some experiments along these lines to find out something about the innervation of the diaphragmatic and parietal pleura. He made a very ingenious experiment. He inserted a hollow needle where there was a large amount of fluid in the pleural sac and then passed a wire through the needle before it was withdrawn in order to find by touching the pleura where the pain was localized extrapleurally. He found in the central part of the diaphragm the pain was apt to be localized in the upper portion of the chest, and if the outer two or three inches of the diaphragm were touched the pain was referred to the abdominal region; in other words, the center is supplied by the phrenic, and the outer portion by the intercostal nerves, and the reflex is sent down through them to the abdominal muscles and skin.

Now the differential signs are: In the first place, the respiration will give you a clue to some pulmonary lesion. The respirations as a rule are increased, and the characteristic differences in the respiration and pulse are noted. Another point is the difference in the leucocyte count. Many of the gentlemen have already mentioned the presence of a leucocytosis as a diagnostic point in infections. The leucocytosis of pneumonia is very much higher. You will find it up to 20,000 or 30,000, and then you should always be suspicious of some lung complication in preference to a septic condition.

Hiccough is a very important symptom. It indicates that the diaphragm is involved in these cases.

The presence of pain in the neck, and pain at the edge of the trapezius muscle is another point of differentiation,—that is, in those cases in which the phrenic nerve is involved. You can find tender points around the edge of the trapezius muscle.

Another differentiating point is that the abdominal pain begins to decrease and disappear as soon as the lung symptoms begin to become prominent. When the case becomes marked as a lung case then the symptoms in the abdomen get very much less.

In these cases of pain in the abdomen there is a great deal of hyperesthesia. That leads to another diagnostic point. If you use your hand and make deep pressure upon the abdomen the pain will often disappear, whereas in an abdominal lesion very often the pain increases. The hyperesthesia of the skin is the cause of this sign.

A point that was mentioned by Dr. Reichelderfer in appendicitis is that the pain becomes localized in appendicitis, whereas in these cases as a rule the pain is not localized, but is diffuse.

In these cases of lung disease, some of them, the lung symptoms are very slow to develop. There are a number of cases recorded where it has been anywhere from two to eight days before a diagnosis of a lung condition could be made. In these cases the diagnosis becomes extremely difficult, and the other differential points have to be taken into consideration to decide whether or not the patient should be operated upon.

In a few rare cases you may find that the lung upon the left side is involved, whereas the signs are upon the right side of the abdomen. There have been several of those cases

reported, and I have seen two or three myself.

Subdiaphragmatic abscess does not come truly within my range, but I will mention it. The diagnosis of this condition sometimes is an extremely difficult matter. I would like to mention the fact that in these cases sometimes a cone-shaped area of dullness in the axillary region pointing upward, will indicate the location of the trouble below the diaphragm; and also the further fact that Hoover's costal angle sign is demonstrable in these cases. I have never been able to demonstrate the latter sign satisfactorily to myself.

1726 *M Street, N. W.*

PEPTIC ULCER.*

By J. RUSSELL VERBRYCKE, M. D., Washington, D. C.

In considering ulcer I will only consider the ulcers which give pain. You will remember there are a great many ulcers which give no pain whatever. Also remember the point that ulcer and cholecystitis can occur in the same patient.

The diagnosis of gastric ulcer depends upon the same examination as other gastric conditions—history, physical examination, special laboratory tests and special signs.

History.—Peptic ulcer is the only gastric condition which may give such definite, typical symptoms that a diagnosis may be made in some cases from this alone. That does not occur in more than thirty per cent. of cases. The typical symptoms are not those of the textbooks—of pain, vomiting and hematemesis,—but the periodicity of symptoms, the constancy of the time of the appearance of the symptoms after each meal in the individual patient, and the manner of relief of the symptoms. By periodicity we mean a seizure or trouble occurring constantly for days or weeks, interrupted by perfect health for days or weeks. By the time of appearance after meals we mean that always in the same patient, whatever symptoms that patient may have will come in the same patient at the same hour after each meal. The relief of pain by vomiting, food or alkalies, is very characteristic.

Hunger pain almost always means duodenal ulcer—not always, but usually. These symptoms have been hammered at for the last few years, but almost weekly we see patients who have been to physicians who have not recognized the trouble.

Any two of the following symptoms or signs I believe may enable us to make a positive diagnosis: Localized tenderness, either front or back; hypersecretion; occult blood; localization of blood mark on the thread; confirmatory sign of the X-ray. Any two of these together will enable us to make a positive diagnosis. Pathognomonic signs may be found which are sufficient to make a diagnosis; for instance, the finding of the niche or the bud of the penetrating ulcer, or the larger cavity behind the stomach of the perforating ulcer. Personally, I always like to see occult blood as one of these signs, because the cases which have been mistaken have been those which have had some of the other signs and not occult blood.

Perforation would be indicated by agonizing pain probably after exertion; generally a previous history. This pain is followed by an intense board-like rigidity. The pain may be right-sided to start with, then it becomes general. No attention should be paid to the fever or leucocyte count or to the pulse, because we ought to operate on those cases before the pulse shows the effect.

The condition which is most like a perforated ulcer probably is acute pancreatitis; this we can differentiate if we consider the history of previous gall-bladder symptoms.

The rigidity is *the* sign, and cannot be simulated by any other abdominal condition.

A few words as to carcinoma superimposed upon ulcer. It is almost impossible for a general practitioner to make this differential diagnosis without the facilities of the gastroenterologist. A thing that may suggest it is the fact that the patient may tell you that his symptoms have changed in character. The trouble may become more constant than before. The pain is not relieved by eating, etc., and the periodicity is less and the symptoms become continuous day after day. The patient may lose his taste for meat. There is loss of weight. If the cancer is at the pylorus, vomiting may occur where it has been absent during the previous illness.

There are three ways in which we should

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endeavor to rule out carcinoma. In the first place, putting the patient back under a strict treatment and noting if the occult blood disappears. If so, there is no malignancy. If it does not disappear, it may mean a chronic ulcer, but if it does disappear you can absolutely rule out cancer. In the second place, test the gastric secretion at intervals to see whether the secretion shows a tendency to failure. Any failing in secretion would make us very suspicious. In the third place, the X-ray. None of these signs are infallible, but they ought to put us on the right track.

Now, gall-bladder infection may occur with ulcer, but there are certain conditions where it may give symptoms exactly like ulcer. I will speak principally of the cases of gall-bladder inflammation which are accompanied by adhesions to the pylorus or duodenum. In the first place, the symptoms are more apt to be continuous in gall-bladder dyspepsia. In the second place, a careful consideration of the characteristics of preceding attacks will perhaps give us a clue as to whether the condition is a gall-bladder condition or not. In the third place, the value of the X-ray in showing the distortion from the adhesions running either to the pylorus or the duodenum. In the fourth place, by the location of tenderness, which is very indefinite because the location of each may be in the circle of half a dollar. In the fifth place, there may be occult blood with gall-bladder conditions also, but generally in this condition there is diminished acidity or the absence of acid in the stomach. That is, if you find occult blood and a hyperacidity together, it will mean ulcer. Lastly, by the use of the duodenal tube, which is probably one of the very best means of determining the condition of the gall-bladder, aspirating the duodenal contents, noting the color of the bile. If it is clear golden, probably there is no serious condition in the gall-bladder. However, if turbid, dark green, full of mucus and a great number of organisms, we would be very suspicious of gall-bladder conditions.

The Rochambeau.

The little house fly is a dangerous thing. The time to "swat 'em" is in spring.

Civilian health is the rock upon which military efficiency rests.

COLON LESIONS.*

By WILLIAM J. MALLORY, M. D., Washington, D. C.

There are two points about the differential diagnosis of colonic lesions from other diseases that are based upon a physiological fact not very well recognized. One of them is that colonic lesions may resemble in their symptoms gastric or duodenal lesions, because on filling of the stomach at meals pain is felt. The explanation of that is that when the stomach is full and peristalsis begins there is nearly always also a reflex peristalsis of the colon, and pain will be felt and referred to the colon rather than the stomach, but because it comes on after eating the patient and sometimes the physician will infer that it is a gastric lesion.

The second point is that almost all lesions of the colon that give pain give pain in the ascending colon or around the cecum or appendix. There seems to be referred pain there due to augmentation of the normal antiperistaltic movements.

Now one of the simple lesions of the colon is colitis. There will be found the history of some infection, perhaps of the teeth, tonsils, sinuses, appendicitis, or frequently following an operation for appendicitis with adhesions. It may be mistaken for appendicitis or ulcers of the stomach for the reasons just given.

The proximity of the hepatic flexure to the gall-bladder may produce confusion for the reason that ulcers of the colon are especially apt to occur at this point, at the flexure, where the contents impinge on the lining of the colon with greater severity. Ulcers of the colon are recognized by the tenderness in the course of the colon on palpation, and usually constipation, with the passage of little scybalous masses, with the presence of mucus and sometimes pus and blood.

Tuberculous ulcers would have to be considered. The large majority of them occur between twenty and forty years of age, and run an exceedingly chronic course. They may remain localized for a long time, and add to the hyperplasia and chronic inflammation present a mass resembling malignancy. It is very hard to differentiate them, but usually the chronic

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course will differentiate from malignant growth of the colon, and tuberculous lesions elsewhere and the finding of bacilli are of some help, though not absolutely conclusive.

Intussusception of the bowel will sometimes give right-sided pain, more particularly when intussusception occurs into the cecum. Here the age, the circumstances of the onset of the attack, and the absence of a history of fever and leucocytosis at the beginning of it will help us to differentiate it from some of the other acute colonic conditions. Of course, a little later we will have the fever and leucocytosis even from an intussusception.

While not truly a colonic lesion, there is one cause of right-sided pain that is sometimes mistaken for acute appendicitis, and that is incomplete right-sided hernia. I have seen two patients who gave a history of an acute attack resembling appendicitis in every respect except that they did not develop the fever and leucocytosis, and on examination there was found an incomplete hernia, and after this was observed and the patient studied a little more closely, it was found that his attacks of pain occurred following exertion and straining, and they decreased when he avoided such exercises.

There is one peculiar and somewhat rare disease that sometimes causes a very confusing and unclear picture, and that is polypus of the intestine. This may occur anywhere along the intestinal tract, but some cases have been reported which gave a right-sided pain which may be mistaken for appendicitis, intussusception, or perhaps malignancy. The patient had more or less loss of weight, nausea and vomiting, and during the last six weeks attacks had occurred of sharp pain around the navel and across the abdomen, later becoming localized. The last attack was accompanied by a chill and a temperature of 102.5°. But there was no pain at that time. There was some soreness and a mass could be felt on palpation and outlined in the lower abdomen. At operation there was found an extensive polypus of the intestine, and resection was made, with recovery. Here the other symptoms that would help us to recognize this or suspect it would be the hemorrhage from the bowel, mucous diarrhoea, tenesmus and eosinophilia.

Finally, with regard to colonic lesions the thing that troubles us most is the question of bands and adhesions. These give the patient symptoms that they call indigestion, due to the fact, already mentioned, that the filling of the stomach will start up peristalsis, but if there is any inhibition or any adhesions between the colon and the parietal peritoneum we will have pain. In nearly all cases these obstructive symptoms are referred to the neighborhood of the cecum. The X-ray is of great help in recognizing these bands and adhesions, but we are in great danger of making one mistake in this connection. A patient who has such vague and irregular attacks of pain may be found to show some bands, but these may not be the cause, and he should not be operated on for bands and adhesions unless it can be shown that these are interfering with the function of the intestines, that is, that they are not emptying normally, the contents being fixed in some way.

1720 *Connecticut Avenue, N. W.*

DISCUSSION.*

Dr. W. P. Carr, Washington: While these papers were being read I was making a few notes of different things that I have operated on at one time or another for appendicitis, and I have no doubt there are more than I have got down here, but I have operated once and found tubal pregnancy when I thought it was appendicitis; twice I have found ovarian tumor with a twisted pedicle; about twenty times I have found simple ovarian cyst; gall-stones in one or two cases; cancer of the sigmoid half a dozen times; polypus in the large intestine, which was afterwards passed by the rectum, in one case; sigmoid adhesions in at least one case; general tuberculosis in one case; localized tubercular peritonitis in two or three cases; fibroid tumor with twisted pedicle in one case.

Now there are a great many more cases than that that may be mistaken for appendicitis. It seems almost impossible at first to make a differential diagnosis between all these things. In fact, after writing a paper on how to make the diagnosis of a twisted pedicle of an ovarian tumor, the next one I did not make a diagnosis and operated for appendicitis.

*This is a discussion of the several papers of the Symposium on Right-Sided Abdominal Pain, read before the Medical Society of Northern Virginia and the District of Columbia, at Washington, D. C., November 15, 1916.

But the important thing is to make a differential diagnosis between those diseases which are in the abdominal cavity and can be dealt with through the same incision and those which cannot be and those which it would be dangerous to operate on for appendicitis or some abdominal lesion and those in which it would not be proper to operate. Now it does not matter so much whether we make a differential diagnosis between an acute salpingitis or an ovarian tumor with a twisted pedicle and those inflammatory diseases that need operation and where the operation can be done through the same incision, but it does make a great difference if we operate on a case of pneumonia for appendicitis, and I never did that, but I came very near doing it once in a case that Dr. George Ruffin had. We watched this case for three days, and Dr. Sterling Ruffin examined it also. We examined the chest a number of times. There was absolutely nothing in the chest. All the symptoms apparently were plainly those of appendicitis—leucocyte count, rigidity of the abdominal wall and everything. We took the patient, a child, to the George Washington Hospital, and even went so far as to prepare the operating room, when Dr. Ruffin listened again to the chest and found a few crepitant rales and we decided to wait. The next day the abdominal symptoms had cleared up, and it was a plain case of pneumonia. A case was operated on in the Emergency Hospital under similar conditions by one of the best surgeons in Washington. That is a thing that we ought to be very careful about.

I think in kidney lesions also it is very important not to go into the abdomen. Not very long ago I operated on a nurse in the Emergency Hospital for what seemed to be a very plain case of appendicitis. Although she had a little pus in the urine, it was not marked. We thought an appendiceal abscess was the cause of the inflammation of the kidney and the little amount of pus. I did not find the appendix much involved, although there was an appendicitis. After the operation she was relieved for a little while. Later Dr. Fowler operated on her for a perirenal abscess, and she is now perfectly well. I do not think the perirenal abscess was there at the time I operated on her, but developed possibly from the same cause as the appendicitis. But I think the important thing that we ought to bear in mind is that wherever there is time there ought to be a very careful examination made in every possible way in these patients before we operate on them, particularly to establish the fact as to whether or not the lesion is in the abdominal cavity, in the kidney or in the lung. If it is in the abdominal cavity it does not matter so much whether it is gall-stones, appendix, ovarian or uterine troubles, because they can all be dealt with through the same incision; but if it is a renal case we are wasting time and making the patient's chances of recovery much worse if we open the abdomen first to make the diagnosis. Even when we open the abdomen we may not be able to make the diagnosis if it is a renal case. We ought to examine these cases carefully, and where necessary have a careful renal examination or a vaginal examination made by an expert in that line. Usually a vaginal and a rectal examination will do a great deal towards clearing up the diagnosis, but we must bear in mind that many of these cases are not simple; they are complicated, and there will be both acute salpingitis and appendicitis; both appendicitis and gall-stones. That is particularly the case in the chronic forms. I believe the difficulty of diagnosis is more in the chronic cases, where you do have plenty of time, than in the more acute ones. I never operate on a case of appendicitis in an old person where I do not bear in mind that it may be cancer of the cecum, because I have seen a good many, especially where you find a little mass there which you suppose to be adhesions around the appendix, but it may be cancer.

Dr. Stavely, Washington: I just want to say that in the physical examination of tubal conditions (I failed to mention this) we have quite a guide, and often, with the history, we can differentiate between a gonorrhœal and a streptococcus trouble.

Then in regard to appendicitis I will just mention a case which shows how difficult it is sometimes with bad cases to tell the difference between an appendiceal and other pelvic conditions. This case, a young girl, had a high leucocytosis, high fever, a rapid pulse, and was evidently very sick, and I made an examination. I could find no evidence of any abdominal trouble whatever. Finally, I made a rec-

tal examination and found an abscess presenting on the right side in the pelvis. Then we gave her an anesthetic and dilated the vaginal orifice, made a vaginal puncture and relieved her of several ounces of pus containing the colon bacillus. Yet she had no abdominal symptoms. It was undoubtedly of appendiceal origin.

Dr. Harry H. Kerr, Washington: May I refer to one other condition that is sometimes not included in our diagnosis of right-sided abdominal conditions where the principal symptom is pain? I have seen two cases, one with a colleague in town, another one was a case of my own. That was a case of caries of the spine, Pott's disease, in an adult. The pain there is referred along the distribution of the intercostal nerves, and you get the symptoms referred to the abdomen, particularly to the lower quadrant, and it is more apt to simulate appendicitis than the other subjects under discussion. One of the cases had been operated on twice. The appendix was removed. At the second operation the adhesions were separated, again without result. Subsequently the patient became much worse and I was asked to see the case. After a very thorough examination, being a little suspicious of the spine, the X-ray cleared up the diagnosis.

The other case, which I saw in consultation, had gone on to psoas abscess. There we had many of the typical signs of appendicitis.

Another condition is when you have a retrocecal appendix, with the appendix covered with the cecum, and that robs you of many of the peritoneal symptoms, and with the absence of leucocytosis we may overlook the real cause or seat of the infection.

Dr. Harry A. Fowler, Washington: I wanted to add just a word to the discussion of Dr. Hagner's remarks on the differentiation between renal lesions causing right-sided pain and those due to other conditions or lesions of the abdominal organs.

Stone in the kidney or ureter in a typical case—and that is in the majority of cases—produces typical pain which is readily recognized and the diagnosis is readily confirmed by the X-ray, but in a smaller number, but not in a considerable number of cases, stone in the ureter may give rise to such atypical symptoms that the differentiation from gall-bladder conditions is difficult or absolutely impossible. We know that group of silent calculi in which no symptoms are produced. But in a not inconsiderable number of cases the symptoms are so confusing that the diagnosis becomes very difficult. In that group of cases the method of examination must be very carefully followed in order to differentiate between the renal lesions and lesions of the appendix or gall-bladder, and we have to bear in mind too the fact that we may have renal calculus associated with infection or other lesion of the gall-bladder, and also with appendicitis. In those atypical cases of stone in the kidney or ureter the pain may be referred to absolutely any part of the abdomen. It may be referred not to the right side, but to the left side; that is, the lesion being upon the one side, the pain may be referred entirely to the opposite side. This is very nicely brought out in the study of a large series of cases at our leading hospitals. For instance, at the Massachusetts General Hospital, in going over the records of 156 cases, we find that 26 abdominal operations were performed for conditions that did not exist. The condition was not intra-abdominal, but was renal, and was due to renal or ureteral stone. Now this number is rather appalling when we consider the facilities for examination and the care with which those cases at a place like the Massachusetts General Hospital are investigated. It emphasizes the point that in a considerable number of cases the diagnosis is not at all clear from the symptoms. In other words, the symptomatology of ureteral calculus is not dependable for the purpose of diagnosis, in a considerable number of cases. So that we are thrown back upon our objective findings from our routine examination. It is necessary therefore to emphasize the importance in every case of right-sided abdominal pain of bearing in mind that the lesion may be in the kidney although the pain is referred to some of the abdominal viscera. It occurs not infrequently that patients are operated upon for appendicitis or gall-bladder disease where the lesion is in the kidney, and the failure to recognize the seat of the trouble arises from the failure to make the ordinary routine urinary examination.

Not so very long ago a case of this kind came under my observation in which the pa-

tient presented typical pain around the appendix, but there was no fever. The patient was prepared for operation, and just before being taken to the operating room a specimen was examined, red blood cells were found, and then the surgeon became suspicious that possibly the case was not one of appendicitis but possibly a renal condition. He was referred to the X-ray man, and the diagnosis of stone in the kidney was not made. A shadow of the calculus was not found. But the urine examination showed the presence of fresh red blood cells, and cystoscopic examination showed marked changes about the right ureteral orifice, which showed that there was some disease or lesion higher up in the urinary tract. That patient has been followed, and up to the present time he has not passed any calculus, but he has not had a recurrence of his appendiceal pain.

Not infrequently the pain is referred to the region of the gall-bladder and we suspect cholecystitis or stone in the gall-bladder. An interesting case of that kind I had recently under observation. This patient had an old history of abdominal pain which suggested gall-bladder disease. When he came under observation he was suffering with marked pyuria, and tracing out the origin of this pus we found it was coming from the right kidney. The X-ray examination disclosed a stone in the pelvis of the kidney, evidently blocking the opening of the ureter, dilatation of the pelvis and infection. The patient was sent to the hospital, a pyelotomy was done and the stone removed. Convalescence proceeded normally for three or four days, and then the patient began to have pain, referred to the whole abdominal region. It was not until a week later that we were able to satisfy ourselves that there was trouble in the gall-bladder, and subsequent operation showed a marked distension of the gall-bladder with a lot of tarry substances filling the gall-bladder. This was opened and drained and the patient went on to complete recovery.

The condition Dr. Carr referred to is another one which may make the picture confusing. Fortunately, we saw the patient after the diagnosis had been cleared up. The appendix, which was definitely diseased, had been removed. The pelvic organs had been examined. Therefore, there was not much left except the kidney on the side to be the seat of trouble. In that case there was very little change in the urine—just a few leucocytes. But the local symptoms and signs were so definite, plus the leucocytosis and fever and retraction of the thigh, that we feel quite sure that there was pus behind the kidney, and on opening this we found a large amount of pus.

So that I think the attitude of the physician ought to be in any case of abdominal pain, where there is any doubt whatever as to the diagnosis, one should always suspect the kidney of trouble and rule that out before proceeding with any surgical interference. The pain in these cases is sometimes very confusing and so misleading that it is impossible to make a definite differential diagnosis without first excluding the kidney as a possible source of the trouble.

Dr. W. B. Carr, Washington: I would like to mention one other anatomical specimen that I saw at autopsy which would go to show how hard it is to diagnose some of these cases. I have seen a good many appendices out of place, but the other day I saw one that came up retro-peritoneally about two and a half inches above the cecum and continued under the peritoneum to the kidney and its tip was right down in the pelvis of the kidney. The kidney was out of place and right up adjacent to the gall-bladder. I do not believe anyone would have done other than diagnose a surgical condition in that particular location. It shows how difficult it is to make an absolute diagnosis. To remove that appendix I had to split the kidney capsule to get it loose.

Dr. Louis Mackall, Washington: There is one symptom that has been of assistance to me. I got the tip from Dr. Harnsberger. That is, in most cases of appendicitis if the patient is turned over on the left side or changes position the pain is increased. I have tried it in several cases. Dr. Harnsberger told me about it two or three years ago, and it has been of material benefit to me.

Dr. W. P. Carr: One little point. In diagnosing appendicitis, no matter where the tip of the appendix, the tender spot is usually right over the base of the appendix. That does not often vary. Dr. Robert Morris, of New York, claims to be able to diagnose in-

flammation of the appendix from that of the ovary or almost any other organ by tender spots, the lumbar nerves being reflexly inflamed. I have never been able to make out those tender spots, but I do believe it is important to remember that the tenderness is over the base without reference to where the tip of it may be or the pain.

Dr. Noble P. Barnes, Washington: In reference to what Dr. Carr has just mentioned, I was afraid Dr. Morris' tender points would not be mentioned. Morris' para points are an inch on either side of the umbilicus. He claims, and I have followed it out on all the examinations that I have made, that in acute appendicitis you have your pain over McBurney's point. In appendiceal adhesions or abscess formation that tender point moves up to an inch of the umbilicus. He differentiates that from the tender spot on the left side, which is due to pelvic lesions.

Dr. Stephen Harnsberger, Catlett, Va.: I feel very grateful to Dr. Mackall for mentioning that fact, especially as we country doctors whenever we lose a case, whether at home or on the operating table under the care of our distinguished surgeons, have always been blamed for not diagnosing our cases soon enough. I would just mention now, as a country doctor, I think we country doctors can diagnose our cases a little in advance of the surgical specialists. At one time I had at Garfield four patients. Three of those patients were diagnosed as having appendicitis on the symptom which Dr. Mackall has just mentioned. That is, if they are more comfortable on the right side than they are on the left side you can be pretty safe in diagnosing appendicitis. Or if they haven't appendicitis, they certainly have inflammation somewhere in the neighborhood of the ileocecal valve.

Dr. Joseph D. Rogers, Washington: The subject of right-sided abdominal pain has been extremely interesting to me and I have often been puzzled in my diagnosis, especially in cases somewhat chronic without marked symptoms. I have enjoyed the remarks made by the members of our society, most of whom are doing especial work on the phase of condition discussed by them. Many useful points have been brought out this morning. Differential diagnosis is very important especially to the extent suggested by Dr. Carr in his remarks. I also agree with Dr. Verbrycke that the correctness of our diagnosis depends largely on the completeness of our examination and the facilities at our command. Lower right-sided pain in women simulating very closely appendicitis and salpingitis has, in my experience, when thoroughly analyzed, frequently proven to be purely a neurosis. In women this possibility should always be eliminated as far as possible. Right-sided abdominal pain often requires prompt action but haste at the expense of diagnosis may be very embarrassing to both patient and surgeon.

Dr. Verbrycke, Washington: Someone has described a sign for appendicitis which has the same principle, that is, to slip the hand down between the cecum and the pelvic wall and pull toward the median line. That is supposed to elicit the same pain. They both follow the same principle.

I think that in all the conditions that have been mentioned the proportion of our correct diagnoses will depend on the completeness with which the examination has been made, depending upon the condition of the patient which permits and the facilities which we have for the examination. Such proportion, at least in gastric ditsurbances, will vary from less than thirty per cent. with an incomplete examination to about ninety per cent. with a complete examination.

Dr. Hagner, Washington: I do not do general surgery, but when I did general surgery the thing was impressed on me in appendicitis that pain may be anywhere in the abdominal cavity. I believe all the symptoms these gentlemen speak of are very valuable, but we must not lose sight of the fact that in appendicitis the pain may be anywhere.

I want to cite a case that shows the value of rectal examinations. It was a case in which years ago Dr. Finney and I were associated. He made a diagnosis that this man had a general peritonitis following appendicitis, and stated that the appendix was gangrenous and behind the bladder. The only pain this man had was pain in the head of the penis. He had examined him and made out the appendix between the rectum and bladder, and at operation that is where he found it.

THE USES AND ABUSES OF DIGITALIS.*

By J. LAWN THOMPSON, A. M., M. D.,
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It was only when, having perused paper after paper of an original and experimental nature, as well as numerous resumes by the most eminent men for the past two hundred years, that I appreciated the fact after your program committee had awarded me the subject of "The Uses and Abuses of Digitalis,"—that I was dealing with a subject that has been a bone of contention for centuries.

Challenge follows challenge, contradiction follows contradiction, in such rapid succession that one feels as if he knew absolutely nothing concerning the drug in question, and concludes that the abuses are far more frequent than the judicious uses. It may be well in passing to casually mention the derivatives of this stumbling block. Digitalis, or foxglove, as it is commonly known, is found growing wild in European countries of the temperate zone. In this country it is cultivated for decorative and medicinal purposes. The word foxglove is a corruption of folksglove, "folks" being an old synonym of "fairies," and has been known and used for over three hundred years.

The digitalis of the U. S. P. is taken from the leaves of the second years' growth. It contains the following substances, no single one of which acts as does the preparation of the crude drug; in other words, all these compounds must act together to be therapeutically active: digitalin, digitalein, digitoxin, digitin, and digitonin. These are the glucosides so far isolated by the chemists. The powdered extracts, fluid extracts, tinctures and infusions are the end-results. To determine the most efficacious, I take pleasure in recommending you to some two hundred papers, mostly in French and German, though our own professional brethren have not been at all backward in entering the controversy.

The United States Dispensatory seems to approve of the tincture of digitalis as the most reliable form, as it contains the greatest percentage of the combined glucosides.

The infusion, though used a great deal in this country and most extensively in England, is not reliable, because it does not contain the required percentage of the glucosides, some of which are insoluble in water.

Stockwell, in the Encyclopedia of Practical Medicine, condemns the use of the concentrated tablet triturates. He says that while they are of great benefit to the manufacturer, he is not certain that they are as much good to the patient as the other forms of the drug.

We have no certainty that we are ever getting the properly assayed drug. When one considers that the plant must be two years old, that the leaves and flowers must be plucked during the latter part of their blooming period, that they must be dried and kept at a certain temperature, that they lose their virtue even though kept in air-tight containers after ten or twelve months, that they are frequently adulterated with the leaves of the black nightshade, mullen, and even the common potato leaves, it seems that we had best search for a substitute, though Jacobi says that there will never be one.

In quizzing about twelve druggists in different sections of the city, I found that not one of them knew how to test for the purity of the drug. They depended entirely upon the manufacturer and seeemd to have no knowledge that the tinctures, fluid extracts, or leaves soon lose their strength; so you can readily see that we can get no assistance from the pharmacists, as they all use products of different manufacturers.

Hare says that digitalis taken internally is an irritant to the mucous membranes. Jacobi says in twenty-five years' experience he has seldom seen such irritation to any great extent, and uses the drug from clinical experience rather than from the physiologist's standpoint.

On the nervous system, Hare, Woods, and the U. S. Dispensary claim that there is no appreciable effect, except in poisonous doses; while Mr. Jones, of the Island of Jersey, gave half an ounce of the tincture every fourth hour in seventy-two cases of delirium tremens, obtaining a most sedative effect and no adverse action. I much fear that Mr. Jones should have had his tinctures assayed, for I feel they must have long since lost their virtue. He was most certainly taking dangerous chances, as in alcoholics there is usually high blood pres-

*Read before the Therapeutic Society, Washington, D. C.

sure, which is one of the contra-indications, of which we shall speak later.

Digitalis exerts its chief influence upon the circulation; but right here I would state that the old idea of digitalis acting as a sedative to the heart muscles seems to be shattered by recent investigators, who maintain that it is a stimulant only, and acts only as such. In cardiac lesions, particularly where the diastole is short and snappy, or short and feeble, digitalis does its best work by prolonging the diastole, thus allowing the coronary arteries to fill themselves well, thus furnishing the proper nutrition to the heart muscles. The motor ganglia are also stimulated at the same time, giving steadiness to the heart's action, more power to the heart muscle, relieving congestion, and thus lowering the pulse.

Upon the respiration, all authors have agreed that there is no direct effect, though Jacobi constantly uses the drug in chronic pulmonary involvements, such as tuberculosis and bronchitis, the effect being to stimulate the capillaries, thus furnishing new blood to the parts.

The action upon the kidneys has been the cause of much discussion and dissension. Many think that digitalis is the best of all diuretics, but one must be sure of the condition which he is treating; else he may be disappointed. The drug should never be used in acute kidney involvements.

In old chronic interstitial nephritis, with low blood pressure, the drug acts by inducing arterial tension, thus relieving congestion, it having no effect upon the renal epithelium. The U. S. Dispensatory reports an instance where a cataplasm of leaves, applied to the abdomen for relief of obstinate and dangerous suppression of urine and repeated in six hours, brought on excessive diuresis with a discharge amounting to eight gallons in less than twenty-four hours, producing fatal exhaustion. This may have been an exaggerated hydro-nephrosis.

As an antipyretic, digitalis is useless, and Hare and Wood claim that it is inactive in very high fevers. It has been recommended in pneumonia and typhoid fever, but the writers believe that the drop in temperature was a coincidence with the administration of the drug, or acted as a general depressant, not to be desired. There is no better assistant, however, than digitalis, in the later stages of pneumonia, or long illnesses of an asthenic type.

Referring to heart diseases, in which cases, as I have said, digitalis is so much used and abused, I would state that the drug should never be given until a thorough examination of the circulatory system has been made. It is certainly true that as soon as many physicians feel the pulse, find it weak, digitalis is at once ordered. We meet patients every day taking drugs and, upon inquiry, find that no examination has been made. The stethophone and blood-pressure apparatus are things of curiosity to them. I would suggest that no dose of digitalis ever be given without taking the blood-pressure and using the stethophone at one and the same time. Stockwell well says, in quoting Osler, that "often the pulse feels weak at the wrist when the heart is pounding against the chest wall, crying out in rebellion against over-stimulation." In acute diffuse pulmonary œdema I have noted absence of radical pulsation, when there was marked præcordial pulsation.

Aortic regurgitation is a contra-indication. Bingham likens the circulatory apparatus to a tube closed at one end; but when the aorta is involved, it is open at both ends, the blood not only running through the capillaries, but backwards into the left ventricle. It is evident, then, that anything that prolongs diastole and thus allows more time for the arterial system to empty itself through the capillaries at one end and into the ventricle at the other end, will increase the risk of syncope, and, for this reason, digitalis cannot be regarded as free from danger in aortic-regurgitation.

Bingham, Hare, Woods, Stockwell and others condemn the use of the drug in fatty degeneration of the heart, as there is great danger of rupture of the remaining unaffected heart muscles; but Jacobi maintains that in small doses it acts on the coronary arteries and thus furnishes the requisite nutrition.

In exophthalmic goitre there is a unanimous outcry against its use, though here, again, the rapid heart action and feeble pulse would suggest a drug that would control or stimulate both the vagus and heart muscles.

No one would intentionally administer digi-

talis in aneurism in any part of the body, especially of the thoracic or abdominal aorta.

Concerning the cumulative effects, Stockwell thinks that we have an unfounded fear and that untoward actions have become a bugbear; he thinks that they are no more common with this drug than with other drugs injudicially used.

The *Journal of the American Medical Association*, however, claims that there is a cumulative effect, and that if one does not recognize such a state, he is ignorant of the term so used. The cumulative effect is due to the many glucosides and their known and unknown changes in the system. Suffice it to say, that many cases are on record where digitalis poisoning has occurred coincident with the withdrawal of ascitic fluid, realizing which one should always be careful where there are any large quantities of fluid in the system, to gradually lessen the dosage or entirely suspend its use for some time prior to performing paracentesis. In giving the drug one must watch lest the patient may have an idiosyncracy. Hall, of the Surgeon-General's Library, gives us a very excellent monograph on the subject, in which he has collected from literature quite a number of cases treated with even very small doses of the drug, resulting in hallucinations, delirium, and death.

In conclusion, I would state that we must make an effort to get the pure drug; we must prevail upon our druggists to do likewise, and to educate them and ourselves to the necessity of using digitalis in an intelligent manner. I would suggest the use of the tincture of digitalis for reasons mentioned above. Above all, know what you are doing; examine every heart and the circulatory apparatus by the most improved methods before administering the drug. Do not give over long periods of time, without frequently observing your patient; insist on the recumbent attitude when large doses are being given, thus warding off fatal syncope; order only small quantities of the drug at the time and see that your druggist frequently receives a fresh supply for, as I have stated, the drug soon loses its efficacy; and, above all, realize that digitalis is the most useful of all drugs, the most used, most complex, and the most unreliable; that after three hundred years, we know but little more than did our forefathers. Remember this and you will not be guilty of the injudicious use or abuse of digitalis.

1404 *M Street, N. W.*

FURTHER OBSERVATION ANENT NEPHROPATHIES IN MENTAL DISEASE—ALSO THE INTRA-SPINAL TREATMENT OF CEREBRO-SPINAL SYPHILIS, WITH CASE REPORTS.*

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In 1914, we presented a paper to this Society entitled "Coincidence of Nephropathies in Mental Disease," based on the study of 100 cases. This further report is based on the study of an additional 1241 cases.

If you remember our conclusions before were that a knowledge of the kidney condition was necessary to an intelligent prognosis, and after further and more extended study we see no reason to change that conclusion. This report is based on the pathological findings in each particular case, the symptoms complex, and result of treatment. In each case a permeability test was done in addition to the usual chemical and microscopical examination of the urine. Until eighteen months ago the Wohlgemuth Diastase test for permeability was used; since then, the phthalein test.

Owing to the fact that patients are usually sent to the State Hospital rather as a last resort and that hypnotics have frequently been used, it is probable that the incidence of faulty elimination is larger with our patients than it would be in outside practice. We find evidence of more or less kidney involvement in sixty-eight per cent. of our admissions.

As you would expect, in senile dementia, practically all patients show kidney involvement and many a typical cardio-renal syndrome. In a majority of paretics, there is faulty elimination. In manic cases the incidence of nephropathies seems to be in direct ratio to the age of the patient, indicating that they are probably casual and not causal, though an acute exacerbation appears at times to determine an attack. In the toxic psychosis,

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there is more or less kidney involvement in practically every case. Præcox cases frequently show faulty elimination, but there is no evidence to lead us to believe that the kidneys are more at fault than the other emunctory organs.

An interesting circumstance in connection with the urinary findings in our cases is that the benzaldehyde test is positive in more than ninety per cent. of new cases, and the same percentage shows evidence of renal stasis, this probably the result of hypnotics administered before their arrival, and these conditions rapidly clear up after active eliminative measures are instituted.

As indicated in the beginning, our conclusions remain unchanged in that we still find that the more serious the kidney involvement, the less apt is the patient to recover.

THE INTRASPINAL TREATMENT OF CEREBRO-SPINAL SYPHILIS,

In December, 1915, we began the intraspinal treatment of cerebro-spinal syphilis with mercurialized serum, using Cotton's method which, as you know, is a modification of Ogilvie's method. Perhaps it would be well to give you the technic:

The patient is bled in sterile tubes, the serum allowed to separate and is then centrifuged in sterile tubes until all cells have been removed. Then chemically pure bichloride of mercury is added until each c.c. represents 1-24 grain of the drug. The solution is then inactivated at fifty-six degrees for one hour, and kept in sterile containers for use.

Technic of spinal treatment is as follows: Puncture is made in the usual way, the pressure taken, spinal fluid allowed to flow out until pressure becomes zero. To the last 20 c.c. of fluid is added the prescribed dose of mercurialized serum and this is allowed to flow back into the sac by gravity, after which a sufficient amount of the fluid removed is returned to the sac rapidly by means of a Leur syringe. Patient is then put to bed for twenty-four hours. Since using this method, we find it the exception rather than the rule to have a reaction of moment. Occasionally the temperature will rise to 101 or 102 possibly in the succeeding twenty-four hours, and the patient may complain of headache. These are practically the only untoward symptoms that we have noticed. Of course, this treatment is combined with the intravenous use of salvarsan or neo-salvarsan and mercury by the mouth, by inunction, or intravenously.

We have treated by this method twelve cases, the highest number of intraspinal treatments in any one case being fifteen, while the lowest number is two. We feel that you can get the best idea of results from a rapid survey of individual cases.

Case I.—D. L. L., male. This was an advanced case of paresis, and all that could be hoped for was arrest. He presented the usual picture of advanced paresis with the usual serological and spinal fluid findings. The last examination of spinal fluid showed clear fluid pressure, 395 m.m., negative Nonne and Noguchi, cells 8 per m.m., Wassermann negative in quantities up to 2 c.c. Serum Wassermann negative. Physical and mental condition showed no perceptible change after over one year's treatment.

Case II—T. W. M., male, with advanced cerebro-spinal syphilis. Positive serum Wassermann. Spinal fluid positive Wassermann, with 1-10 c.c. Positive Nonne and Noguchi. 187 cells per m.m. The patient became steadily worse during treatment. There was no improvement in the pathological findings. He died two months ago after having been under treatment ten months.

Case III.—B. J. C., middle aged male. Advanced case of paresis with usual neurological and pathological findings. After thirteen months' treatment, neurological findings are the same. Mental and physical condition improved. Spinal fluid shows a negative Nonne and Noguchi, negative Wassermann up to 2 c.c., cells 6.

Case IV.—Wm. D., a paretic, advanced, with usual neurological, pathological and mental findings, disease progressing slowly.

Case V.—W. H. P., middle aged male, presented the usual mental picture and neurological and pathological findings of early paresis. After thirteen months' treatment, neurological findings are negative, mental and physical conditions improved. Pathological findings are as follows: Serum Wassermann negative, spinal fluid Wassermann negative up to 2 c.c., cells 1, negative Nonne and Noguchi.

Case VI.—J. V. W., male, age 60. Very far advanced bed-ridden case of paresis. Patient died shortly after second treatment was administered. So far as we were able to tell, treatment had nothing to do with his demise.

Case VII.—J. A. C., middle aged male, presenting the usual picture of a far advanced case of tabo-paresis. This patient succumbed to intercurrent disease after five months' treatment. His mental condition and neurological signs, as well as the pathological findings, remained unchanged until his death.

Case VIII.—B. C. D., female. Age 39. Cerebro-spinal syphilis with paralysis due to pontine lesion. In this case there was very rapid improvement physically, mentally, neurologically and pathologically, patient recovering to the point of being able to return to her home. From reports she continues to improve.

Case IX.—G. C. J., male. This patient showed typical rapid cerebro-spinal syphilis, was mentally confused and in very bad shape physically. After six months' treatment, has improved wonderfully physically and mentally, having gained 30 pounds in weight and apparently normal mentality. Serum Wassermann is negative, spinal fluid negative up to 2 c.c. when it is one-plus. We feel that this patient has a good chance for ultimate cure.

Case X.—McK. W., male, age 45. Gave a clinical picture of beginning paresis with the usual neurological and pathological findings. After five months' treatment, he had improved in every way so much that his people insisted on taking him home contrary to our advice. We have been unable to hear from him since.

Case XI.—M. V., male. This patient has been under treatment too short a time to be able to tell what effect may be expected.

Case XII.—R. T. Another patient who has been under treatment too short a while to be able to judge the results.

While these patients have been under observation too short a time for us to be able to say positively that the remissions noted are due to treatment, and, further, while the results obtained, even if this is admitted, cannot be considered as brilliant, yet we consider that they are encouraging to the extent of making it well worth our while to persevere in this treatment.

Analyses, Selections, Etc.

Appendicitis and Pregnancy.

In an exhaustive article on this subject, Aime Paul Heineck, Chicago, summarizes as follows:

1. Appendicitis occurs at all ages and in both sexes. It presents to all medical men important diagnostic, prognostic and therapeutic features.

2. Appendicitis, acute or chronic, initial, relapsing or recurrent, primary or secondary, complicates pregnancy with greater frequency than is believed. It is the most important complication of pregnancy.

3. It occurs in single and twin gestations; in first, early and late pregnancies; in primiparae, deutiparae and multiparae.

4. It occurs at all periods of the child-bearing age, and at all periods of gestation. It complicates both intra- and extra-uterine pregnancies, and can coexist with other disease processes to which it may be primary, secondary or coincidental.

5. Gestation exerts no untoward influence upon the normal appendix. It can and frequently does aggravate existing or determine new inflammatory disturbances in appendices deviating from the normal in form, length, mobility, location, etc., in appendices bound down by adhesions or the seat of inflammatory or other degenerative changes. Pregnancy does not relieve the dangers of appendicitis, but aggravates them.

6. Appendicitis and uni- or bilateral tubal pregnancy are frequently mistaken for each other. They may occur simultaneously or consecutively, may be either primary or secondary to or independent of each other.

7. In appendicitis, in ectopic pregnancy and in combined appendicitis and ectopic pregnancy, of obscure symptomatology, it matters not whether you are certain or in doubt as to the real diagnosis, early and timely operative treatment is imperatively indicated.

8. During gestation, every type of appendicitis may occur—adhesive, catarrhal, gangrenous, ulcerative, obliterative, perforative and suppurative.

9. Appendicitis with adhesion formation is of great significance, because adhesions of in-

flammatory origin can (*a*) incarcerate the pregnant uterus in the pelvis and mechanically hinder the enlargement of the uterus (*b*) impair the contractibility of the uterus, (*c*) interfere with uterine labor in contractions, (*d*) entail subinvolution, (*e*) induce sterility, (*f*) disturb tubal and ovarian integrity of function and of structure, (*g*) determine ileus, (*h*) produce abortion, and (*i*) lead to extra-uterine pregnancy.

10. Chief among the coexisting pathological conditions noted in appendicitis are simultaneous or consecutive inflammation of the uterus, tubes or other pelvic organs. The close anatomical relations existing between the appendix and the pelvic organs explain their frequent association in disease processes.

11. Appendicitis has a greater morbidity and a higher mortality in the pregnant than in the non-pregnant, operated or non-operated. It may terminate pregnancy.

12. The symptomatology of appendicitis in the pregnant is the same as in the non-pregnant. The clinical picture, however, is blurred by the coexisting symptoms of pregnancy. Diagnostic mistakes may be lessened by keeping in mind that appendicitis occurs in pregnant women; that a history of previous attacks during the same or previous pregnancies can frequently be elicited by thorough and deliberate physical examination. With care, one can in these cases almost always arrive at a correct diagnosis.

13. To establish with certainty the diagnosis of appendicitis during pregnancy, it is necessary to exclude the presence of myalgia due to stretching of abdominal muscles, typhoid fever, ruptured or non-ruptured tubal pregnancy, cholecystitis, salpingitis, ovaritis, adnexitis, ovarian cyst with or without a twisted pedicle, right-sided pyelitis and ureteritis, fecal impaction, hepatic and nephritic colic. At times any of the forementioned conditions so closely resemble appendicitis as to cause diagnostic errors and operative mistakes.

14. The morbidity and mortality of appendicitis complicating pregnancy and the puerperium are the morbidity and mortality of delay in applying efficient surgical treatment. The initial symptoms of the attack do not enable the clinician to foretell accurately how a given case will terminate. What is going to happen in 10, 20 or 40 hours following the onset of appendicitis cannot be foreseen. When the condition is diagnosed and remedied early, the mortality is practically nil. Abscess formation may be forestalled by early diagnosis and early operation. The high mortality is due to late diagnosis and late operation. The pregnant woman whose metabolism is good is a good subject for operative measures.

15. Prognosis is better for the mother if there be no interruption of pregnancy spontaneous and otherwise. The bad attacks cause abortions, and abortion aggravates the illness. In the great majority of surgically-treated cases there is no interruption of pregnancy, and when it does occur, it is not due directly to the operation. The interruption of pregnancy is not indicated. It aggravates the prognosis. The fetal prognosis is good in early operated cases.

16. The following prophylactic measures are sound and safe, and are recommended for general adoption: (*a*) During the child-bearing age, recurrent attacks of pelvic pain, dysmenorrhea, menstrual and other pelvic disturbances unassociated with objective pelvic findings are not infrequently due to unrecognized appendicitis or sequelae thereof. In the presence of this etiological factor, the ablation of the appendix is indicated. (*b*) In laparotomies for conditions other than appendicitis, the appendix should be examined. Should it present any deviation from the normal, its removal is indicated. (*c*) During the child-bearing age, any woman who has had one or more attacks of appendicitis treated non-operatively should have her appendix removed so as to correct existing pathologic conditions and prevent future attacks of appendicitis and complications incident thereto. True prophylaxis in a woman of child-bearing age, who has had one or more well marked attacks of appendicitis, is an interval operation. It goes without saying that constipation is to be avoided and that other hygienic precautions are to be observed.

17. A definite and accurate diagonsis of acute, chronic or recurrent appendicitis, irrespective of the stage of pregnancy, invariably calls for operation. The disease during pregnancy runs such a rapid destructive course that delay is hazardous. Operation should be early and immediate. A case may be rendered

hopeless by hesitation and inaction. Temporizing methods are extremely dangerous.

18. Treat appendicitis in the pregnant female as you treat it in the non-pregnant. Every pregnant woman who is a subject of appendicitis should be operated on just as soon as the diagnosis is made, whether the attack is the first, second or third.

The unusual risks of leaving a diseased appendix in the abdominal cavity are much increased by the pregnant state, and the evil consequences of another attack, *i e.*, gangrene or perforation, will be correspondingly greater. The danger of recurrence in the later months of pregnancy and in the child-bed period calls for operation preferably during the attack. If the patient is not seen in time, one will do the next best thing, an interval operation during the pregnancy. Pregnancy is an additional indication for operation in cases of appendicitis.

19. In inflammatory disease of the appendix, the ideal operation is an appendectomy. In some cases, however, one has to be content with incision, evacuation and drainage of an appendicular abscess. Exceptionally, drainage of abscesses in Douglas's pouch may be affected through the vagina or rectum. Pus should be evacuated, irrespective of uterine contents and irrespective of its location.

20. It is well to keep in mind that for an appendectomy, the medical incision is contraindicated in the later months of pregnancy; that it is best to avoid or to reduce to a minimum the manipulations of the uterus; opiates are indicated in the after-treatment. Labor, when it occurs shortly after a laparotomy, is not to be unduly prolonged; it may have to be assisted.—(*Maryland Medical Journal*, June, 1917.)

Treatment of Burns With Paraffin Mixtures.

Dr. Rudolph Matas, New Orleans, suggests the following: The paraffin treatment is begun at the first dressing. Very exceptionally, in very septic burns, the paraffin is replaced by hot boric fomentations for two days after paraffin treatment.

The burn is washed with sterile water and dried, the drying being accomplished by placing a dry piece of gauze over the burn; or, if convenient, an electric drying machine may be used.

The burn is next covered with a layer of paraffin at a temperature of 50 degrees C. (122 degrees F.) The No. 7 paraffin has a melting point of 48 degrees C. (118 degrees F.) The temperature may be estimated by waiting until the wax shows a solidifying film upon the surface. A broad camel-hair brush, sterilized in wax, has been found to be a rapid and painless method of applying the paraffin. A spray may be used, but sprays readily get out of order, are troublesome to use, and the dressing takes longer. In theory, a spray should be used to prevent damage to the epithelium. In practice, we have found a brush, skilfully used, sufficiently satisfactory. Sprays are indicated in very painful cases. A metal spray of rather large bore should be employed, and must be immersed in hot water during use.

A thin layer of absorbent cotton, cut the same size as the area of the burn, is placed over the wound after the first layer of paraffin has been applied. The layer of cotton is then covered with a second layer of paraffin. To obtain thin layers, the cotton is cut in thin sheets and pressed between sheets of paper. The dressing is completed by applying cotton and bandages. The burns are usually dressed daily. In the later stages, when the burn is clean and only a small amount of pus formed, the dressing is changed every forty-eight hours.

The burn is washed, blisters not being interfered with in any way, and the paraffin applied. At the second dressing, the dead layers of skin are cut away. Sloughs usually separate after a few dressings, being accelerated by applying a layer of jaconet over the cotton and paraffin beneath the cotton and bandage dressing.

FORMULA FOR NO. 7 PARAFFIN (HULL.)

Resorcin	1 per cent.
Eucalyptus Oil	2 per cent.
Olive Oil	5 per cent.
Paraffin, soft	25 per cent.
Paraffin, hard	67 per cent.

Melt the hard paraffin and add the soft paraffin and olive oil. Dissolve the resorcin in absolute alcohol (soluble in 2 to 1), add the alcohol resorcin, and, lastly, the eucalyptus oil when the wax has cooled to about 55 degrees C. (130 degrees F.)

All of the resorcin does not remain in sus-

pension, and the author has used a paraffin containing 0.25 per cent., with good results.

Because of the difficulty experienced in obtaining resorcin in large quantities, betanaphthol, which has the additional advantage of being a cheaper antiseptic, has been substituted in more recent preparations, as follows:

Betanaphthol	0.25 per cent.
Eucalyptus	2.00 per cent.
Olive Oil	5.00 per cent.
Paraffin, soft	25.00 per cent.
Paraffin, hard	67.75 per cent.

The soothing effect of the mixture and the immediate cessation of pain in all of his cases, continues the author, representing every type of burn, has been, perhaps, the most notable and gratifying feature of the treatment. All pain ceases after the burned or blistered are covered with the paraffin, and relief continues as long as the wax is kept in place.

The wax is removed with the greatest ease, as it comes from the wound in large scales or sheets. In septic and suppurating conditions the dressings should be changed at least once daily, or whenever the secretions tend to accumulate to any notable extent under the wax-like shield or "carapace." In deep burns of third degree, with extensive sloughing, the sloughs appear to be detachced under the protection of the dressing with greater rapidity and less pain than under any other treatment; and, too, epidermization progresses more rapidly. Blistered surfaces and superficial sloughs which do not extend beyond the corium heal with a perfectly smooth surface, leaving no appreciable scar.—(*N. O. Medical and Surgical Journal.*)

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Urology—Diseases of the Urinary Organs—Diseases of the Male Genital Organs—The Venereal Diseases. By EDWARD L. KEYES, JR., M. D. Ph. D., Professor of Urology, Cornell University Medical College; Surgeon to St. Vincent's, and Urologist to Bellevue Hospital. With 204 illustrations in the text and 18 plates, 4 of which are colored. 8vo. 908 pages. Cloth. New York and London: D. Appleton and Co. 1917.

In the preface the author states that "Not only have the sections devoted to Cystoscopy, Radiography, Renal Function Tests, Renal Infections and Tuberculosis been rewritten throughout, but the viewpoint from which we now regard Gonorrhea, Prostatism, Syphilis and many of the Operations upon the Urinary Organs has been so changed that those sections also have been radically altered." The general scheme of the volume of which this is the successor has been retained, though there has been some rearrangement of chapters, and "Syphilis, which does not properly belong to Urology, has been relegated to an appendix."

The utility of the present volume is somewhat enhanced from the fact that it is founded much more on personal clinical and pathological experience than its predecessor, although the work of others has been freely quoted. The scope of the book may well be indicated by the table of contents, which is subdivided, with nine chapters on The Principles of Urology, sixteen chapters on Gonorrhea, thirty-one chapters on Diseases of the Urinary Organs, twelve on Diseases of the Genital Organs, twelve on Operative Surgery, and a so-called Appendix with twelve chapters on Syphilis. The volume is thoroughly indexed, this feature covering twenty pages with double columns.

The value of this book does not depend alone upon its excellent arrangement, nor upon its attractive style—with black-faced type and italicised words and helpful illustrations throughout the text; its peculiar worth is in the fact that the author presents his subject in an interesting and practical manner, and with an ease that is refreshing.

The Secretion of the Urine—A Monograph on Physiology. By A. R. CUSHNY, M. A., M. D., F. R. S., Professor of Pharmacology, University of London. Published by Longmans, Green & Co., New York. Price, $3.00 net.

This work is a notable contribution to the physiology of the kidney. There are 15 chapters which cover the entire ground of the subject. Anatomy, physiology, pathology, chemistry, pharmacology, therapeutics and all disorders of the kidney are treated in a most systematic manner. Special mention must be made of direct evidence on the func-

tion of the tubules and glomerules. Here the author speaks with authority on secretion of dyes, salts, uric acid, of calcium, phosphates and iron, of chlorides, sugar and urea. In this connection, experimental work on frog's kidney deserves particular attention. Another chapter of great physiological importance is on "Blood Constituents and Tubule Diseases," where the author displays profound knowledge of the normal and pathological physiology. The concluding chapter on "Nephritis" is of great value from a practical standpoint. The book throughout is treated scientifically and most interestingly.

G.

Editorial.

Butting In.

There is one phase in the practice of medicine which is very unpleasant but very constant and that is the free advice given sick people by friends and relatives.

How constantly have we found out that certain remedies have been prescribed by others because they were sick in just the same way and it did them so much good. As a matter of fact, no two people are ever sick in just the same way, just as no two people ever look *exactly* alike or have exactly the same physical or mental constitution, but the friendly advisers overlook all this and by their persistency simply upset the patient and cause him to be dissatisfied and discontented with his lot.

Look at the 57 varieties of advice given to every expectant mother—all the way from rubbing the abdomen with "Mothers' Friend" up to an one hundred dollar outfit for the confinement. We seldom hear of people advising one another to change their religion or stop dealing with a certain grocer or dry goods merchant, but they always feel perfectly free and at home when it comes to advising the sick what to do. This seems so strange when we know the advice to change doctors or see a "specialist" is an expensive proposition; this debt they do not assume nor the responsibility for the remedies they so cheerfully recomemnd. When the hour of trial comes, these good people are miles away, but the doctor is there and has to shoulder either the praise or blame.

We should always welcome a colleague's consultation under chiefly two conditions,—first, when he requests it, or when the family does. Most consultations are called too late; the time is, when a patient is seriously sick and the diagnosis is not clear. As we all study from practically the same books and the same field of experience, treatment does not vary very greatly. When it is called while the patient is in extremis, it is then somewhat of a form, but possibly a comfort to the attendant to know he has done the right thing, and to the family, that they have left nothing undone.

It is hard enough as it is for us who have made a study of medicine to help sick folks, but when it comes to irresponsible outsiders "butting in," it is a double burden. Let us then, in the future, take a firm but instructive position by explaining the true state of well-meant but pernicious advice, in the hope of abating this uncalled for practice which has been so much advocated and abetted by newspaper advertising.

Hoge.

American Medical Association.

Dr. Rupert Blue, Surgeon-General of the U. S. Public Health Service, retiring president, presided at the opening meetings of the sixty-eighth annual meeting of the American Medical Association, in New York City, June 4, until Dr. Charles Mayo, Rochester, Minn., took his place as president. The attendance was unusually large and this meeting will long be remembered as one of the most interesting in the history of the Association. Among the many matters discussed was the use of alcohol, and the Association went on record as condemning its use as a beverage and in discouraging its use as a therapeutic agent. The matter which should be uppermost in the minds of the medical profession—that of volunteering for service as a medical officer in the war—received much attention, and Dr. Franklin H. Martin, Chicago, chairman of the medical section of the Council of National Defense, sharply assailed physicians for hesitating to offer for war service. The need of physicians for service with England and France as well as with the United States was emphasized, and an appeal was made to physicians to accept

the commission which was offered them and to urge others to do likewise. A plan of subjecting the 81,000 members of the Association to a selective draft to get the best available men for army surgeons was suggested.

All of the hospitals of New York City, about 100 in number, were thrown open to the visitors and a large number of special clinics were given by some of the most renowned surgeons in the country.

Officers elected for the 1918 meeting are: President, Dr. Arthur Dean Bevan, Chicago; vice-presidents, Drs. Edward H. Bradford, Boston; John McMullen, U. S. Public Health Service, Lawrence Litchfield, Pittsburgh; secretary, Dr. Alexander R. Craig, and treasurer, Dr. William Allen Pusey, both of Chicago, and re-elected; chairman House of Delegates, Dr. Hubert Work, Pueblo, Col., and vice-chairman House of Delegates, Dr. Philip Marvel, Atlantic City, N. J. The next meeting is to be in Chicago, the time to be determined by the Council.

Virginia Doctors in Attendance at A. M. A. Meeting.

The following doctors from Virginia were registered in attendance at the meeting of the American Medical Association: Drs. Lewis C. Bosher, Robt. S. Bosher, Karl S. Blackwell, W. Wallace Gill, Jas. R. Gorman, Ira J. Haynes, J. Shelton Horsley, Clifton M. Miller, Thos. W. Murrell, Frank Redwood, E. H. Terrell, Douglas Vanderhoof, Jos. A. White and A. Murat Willis, Richmond; W. E. Anderson, Farmville; J. M. Biedler, Harrisonburg; W. M. Burwell, Chincoteague; Jos. T. Buxton, J. Kennedy Corss, Clarence Porter Jones, J. W. C. Jones, Newport News; A. A. Cannaday, J. R. Garrett, J. W. Preston, H. B. Stone, Roanoke; Wm. F. Drewry, L. S. Early, Frank W. Hains, Petersburg; Frank V. Fowlkes, Burkeville; E. T. Hargrave, Jas. W. Hunter, Southgate Leigh, Wm. B. Newcomb, G. C. Parker, L. T. Royster, Norfolk; Guy Hinsdale, E. A. Pole, Hot Springs; Harry D. Howe, Hampton; D. M. Kipps, Front Royal; H. H. McGuire, Winchester; E. Howe Miller, Jr., Danville; Hugh T. Nelson, Charlottesville; W. M. Seward, Triplett; B. C. Shuler, Shenandoah, and W. C. Welburn, Ballston.

Duty of the Medical Man in the Present Crisis.

Dr. Joseph C. Bloodgood, Baltimore, chairman of the Committee on Medical Preparedness of the Southern Medical Association, in an address before the American Medical Editors' Association, stated that while the demand is for 10,000 doctors in the Medical Reserve Corps, there are not more than 4,000 available at this time. He believed every medical man under 55 years of age should volunteer his services to the Government so as to furnish a sufficient number from which to make a fair selection according to age, experience and specialty. When you volunteer, clearly give a description of what you are fitted to do and not make requests for what you want to do. Volunteers for base hospitals have come in sufficient numbers, but volunteers to go with the troops are conspicuous by their absence. For this purpose are especially needed the most recently trained younger group of men under 35 with hospital experience.

Medical men under 30 with one year hospital experience who desire a medical life career in Army, Navy or Public Health Service, should apply at once to the Surgeon-General of the corps they desire to enter, as there is great demand for men in all three branches. Those desiring to enter the Medical Reserve Corps, should apply to the State chairman of the Committee on Medical Preparedness, who, in Virginia, is Dr. Stuart McGuire, Richmond.

The first and one of the most important functions of a military medical officer is examination of recruits for the new army. A sufficient number of physicians in the Medical Reserve Corps can do this work with accuracy and dispatch. Also, when troops are assembled in mobilization camps, it requires a large number of trained physicians to protect them from disease, and last, but not least, comes the care of the wounded at the front.

North Carolina had a larger percetnage of its physicians in the Medical Reserve Corps, by May, than any other state of the South.

As an army without ammunition is helpless, so also is an army without a sufficiently large medical corps. If possible, offer your services to the government *now*.

The National Committee for Mental Hygiene

Has created a sub-committee on furnishing hospital units for nervous and mental disor-

ders to the United States Government, the project having been approved by Surgeon-General W. C. Gorgas, of the U. S. Army. This subcommittee, of which Dr. Pearce Bailey, of New York, is chairman, is authorized to secure the services of alienists and neurologists to be commissioned in the Officers' Reserve Corps, Medical Section, and to serve in the neuropsychiatric units which are to be attached to the base and other hospitals of the military services of the United States.

Further information will be given, and application forms sent to physicians qualified in this branch of medicine, on application by letter or in person to The National Committee for Mental Hygiene, 50 Union Square, New York City.

American Red Cross Needs $100,000,000.

The American Red Cross has issued an appeal for $100,000,000 for the furtherance of its work in the great war, and it is safe to predict our people will raise it for this most worthy cause, but we all need reminders from time to time. If you cannot fight, or personally minister to the needs of the wounded and sick at the front, practically all can contribute a mite for Red Cross work. As Mr. Henry P. Davison, who has been appointed by the President to be chairman of the War Council of the American Red Cross says, "Our Army and Navy represent the will of the American people; our Red Cross represents the American heart."

For the purpose of arousing greater interest in Red Cross work and increasing its membership, one of the largest and most interesting parades in the history of this city was had on Sunday afternoon, June 17. It was participated in by several thousand men, women and children, white and colored. Bands and floats showing some of the work done by the Red Cross were also in line, and it is safe to predict much enthusiasm and interest will be aroused in the cause by the parade.

The U. S. Army Ambulance Corps

Will have 1,500 picked men from universities throughout the country for service abroad. The corps, which is in a training camp near Philadelphia, is to be organized into units of 36 men each, and will sail as soon as possible after their equipment is complete. These units are to be utilized by the French government until the arrival of the American troops, when they will be turned over to the military forces of the United States, as members of the Medical Enlisted Reserve Corps. This corps will eventually number over 4,000.

Reciprocity Between Japanese and Mexican Doctors.

An agreement has been concluded between the governments of Japan and Mexico mutually recognizing the freedom of licensed physicians to practice in the other country.

Norfolk County, Va., To Have Nurse.

The Virginia Anti-Tuberculosis Association, assisted by the Norfolk Anti-T. B. Association, headed by Dr. Charles R. Grandy, has launched a campaign to raise $1,500 for the employment of a nurse for Norfolk County. Norfolk County supervisors have already appropriated $1,800 for the installation and upkeep of beds in the Norfolk City Home, and there is now pending with the city council a resolution authorizing the Home to receive tuberculous patients from the County.

Members of Richmond Exemption Boards.

The following doctors have been appointed members of the exemption board in Richmond, to pass upon cases of those who claim exemption from the War Department's selective draft system: Drs. A. L. Wellford, M. C. Sycle, E. T. Rucker, J. H. Hinchman and Cullen S. Pitt.

Dr. and Mrs. Armistead Crump,

Whose marriage was recently celebrated in New Orleans, La., spent their honeymoon at Hot Springs, Va., before going to their home in New York City.

Dr. E. G. Valk,

Lake, Va., has returned home after a visit to Baltimore, Md.

Married—

Dr. Sterling Smith Cook, La Crosse, Va., and Miss Ruth Smith, Roanoke, Va., June 7. Dr. Smith graduated from the Medical College of Virginia in the 1917 class and joined

the U. S. Naval Reserve. He is now stationed at the Naval Hospital, in Portsmouth, Va.

Dr. William Frederick Passer, recently of City Point, Va., but now of Philadelphia, Pa., and Miss Martha Stephens, of Staunton, Va., May 26.

Dr. Ralph Mortimer Thompson, Purcellville, Va., a 1917 graduate of the Medical College of Virginia, and Miss Boude Fletcher, Manatee, Fla., June 20.

Dr. George W. Durer, of Greene County, Va., and Miss Marguerite M. Goodman, Charlottesville, Va., June 4. They will make their home in Charlottesville.

Dr. Alan Churchill Woods, Baltimore, Md., and Miss Anne Powell Byrd, Hockley, Va., June 19. Dr. Woods has been living in Philadelphia and is a member of the University of Pennsylvania base hospital and may be called to the colors at any time.

Dr. James McLean Rogers, Amelia, Va., and Miss Mary Dunn Ross, Charlotte, N. C., June 1. Dr. Rogers is a recent graduate of the Medical College of Virginia and expects to go shortly as a medical missionary to Korea, having been appointed to the Graham Memorial Hospital, Kwang Ju, Korea. In the meantime, they will visit in Virginia and North Carolina.

Dr. and Mrs. J. Thomson Booth,

Gordonsville, Va., motored to Ashland, Va., early this month to spend the week-end.

Dr. Louis F. Ross,

Richmond, Ind., after attending the A. M. A. meeting in New York, went by Norfolk, Va., for a short visit to his brother, Lt. C. C. Ross, of the U. S. Navy.

"More Danger Than Cases of Typhoid"

Is the statement given out this month, by the State Health Department. There was a decline of approximately 580 in the number of cases of typhoid in Virginia since October last, as compared with figures for the previous year, but, as eternal vigilance is the price of safety in public health as in every other form of defence, a special warning is issued against typhoid as a result of recent heavy rains in the State. The efficacy of typhoid vaccine is also urged.

Birth Records.

As a result of the recent registration for the selective draft system, many requests were made of the Virginia Bureau of Vital Statistics for birth records which it could not supply. This is just another of the facts which emphasizes the need of birth registration, the law for which became effective in Virginia in June, 1912.

Dr. E. H. Terrell,

Of this city, was elected a vice-president of the American Proctologic Society, at its recent meeting in New York City.

Dr. Walter Joseph Otis,

Of McLean Hospital, Waverley, Mass., who is pleasantly remembered by a number of friends in this city as an interne at Memorial Hospital several years ago, was elected a member of the American Medico-Psychological Association, which recently met in New York City. Dr. Otis attended both this and the A. M. A. meetings there.

To Fight Tuberculosis in France.

The Rockefeller Foundation, with the approval of the French government, and in cooperation with the American Red Cross, have made an initial appropriation of $100,000 with which to begin a fight for the control of tuberculosis in France. Dr. Livingston Farrand, formerly secretary of the National Association for the Study and Prevention of Tuberculosis, with several assistants, will shortly sail for France to undertake the work. Dr. Farrand, who is now president of the University of Colorado, has been given a year's leave of absence to direct this work.

The U. S. Civil Service Commission

Announces an open competitive examination July 10, for men only, to secure physicians in the Indian and Panama Canal Services, acting assistant surgeon in the Public Health Service,, surgeon and assistant surgeon in the Coast and Geodetic Survey, and in positions requiring similar qualifications in other branches of the service.

It also announces an open competitive examination for anatomist, for both men and women, July 11, to fill a vacancy in the Army Medical Museum, Office of the Surgeon General, Washington, D. C., at a salary of $1,600 a year.

For further information with regard to either examination, apply to the above Commission, Washington, D. C.

Dr. Andrew J. Osborne,

Lawrenceville, Va., passed through Mineral, Va., early this month, en route to the mountains for an outing.

Dr. Paul T. Jones,

A former resident of Pulaski, Va., in the recent Atlanta, Ga., fire, lost practically all of his household possessions.

Dr. W. J. Coleman,

Mineral, Va., was called to Spotsylvania County, Va., early this month, because of the death of a relative.

Virginia Corps to be Equipped for Field Work.

It has been announced that at a cost of $21,000, the war department will equip the field hospital and ambulance corps of the Virginia national guard with motor ambulances and motorcycles. These will enable the corps to handle the wounded with the greatest possible efficiency and will place the Virginia companies among the foremost companies in the Red Cross work. Major J. C. Bowman, East Radford, commands the field hospital, and Lt. S. P. Oast, Portsmouth, the ambulance corps.

Some Additional Virginia Doctors Enlisted.

To the names of doctors previously given, who have enlisted from Virginia, may be added: Drs. W. Lowndes Peple, Blanton L. Hillsman, A. L. Gray, Jas. H. Smith, Richmond; Guy B. Denit, Radford; Charles E. Flowers, Norfolk; W. H. Thomas, Steele's Tavern; J. C. Motley, Abingdon; Llewellyn Powell, Alexandria, and M. W. Healy, Bena. Dr. Charles R. Irving, Hansford, W. Va., who graduated from the Medical College of Virginia in 1915, is also in the government service.

Dr. A. L. Gray is already in New York taking the course given at headquarters on military roentgenology, so as to be in charge of the branch school in this subject to be located in Richmond.

Naval Surgeons on the "Solace" Exonerated.

The commission appointed to inspect health conditions of the hospital Ship "Solace," completely exonerated the naval surgeons in command of the charges of gross neglect and carelessness in treating sick sailors, with which they were charged. It declares the charges were worked up by one person and many of the complaints were found to be mere gossip and hearsay.

Dr. and Mrs. Charles E. Conrad,

Harrisonburg, Va., have been on a visit to relatives in Lynchburg, Va.

Dr. and Mrs. J. L. DeCormis

Have returned to their home in Accomac, Va., after a visit to Norfolk.

Removal of Appendices Not Diseased To Be Free.

We note from the *Medical Economist* that under terms of a bill which was to come before the South Dakota legislature, surgeons who remove appendices which are not diseased would not be paid for the operation. To check up the work, the bill further provides that all vermiform appendices removed must be sent to the State laboratory for examination. After examination, they will be returned to the original possessors with reports on condition. If not diseased, the bill relieves the patients of financial liability to the physician.

American Medical Editors' Association.

As the president, Dr. George M. Piersol, Philadelphia, had been called to Ft. Oglethorpe, for military duty, vice-president, Dr. George W. Kosmak, New York, presided at the annual meeting of this Association in New York, early this month. Matters relative to the role of the medical journal and doctor in the war were discussed and resolutions passed and the meeting was one of unusual interest. Officers elected for the ensuing year are: President, Dr. Geo. W. Kosmak, editor *American Journal of Obstetrics and Diseases of Women and Children*, New York; vice-presidents, Drs. Robt. M. Green, editor *Boston Medical and Surgical Journal;* Seale Harris, editor *Southern Medical Journal*, Birmingham; secretary and treasurer (re-elected), Dr. Joseph MacDonald, editor *American Journal of Surgery*, New York. New members of the executive committee are: Drs. C. F. Taylor, Philadelphia, A. S. Burdick, Chicago, and D. S. Fairchild, Clinton, Ia.

The American Medico-Psychological Association,

At its annual meeting in New York, Dr. Chas. G. Wagner, Binghamton,, N. Y., presiding, decided upon Chicago for its next place of meeting, and elected Dr. Jas. V. Anglin, St. John, New Brunswick, president, and re-elected Dr. Henry C. Eyman, Massillon, O., secretary-treasurer.

The American Laryngological, Rhinological and Otological Society,

At its recent meeting in Atlantic City, N. J., elected Dr. George L. Richards, Fall River, Mass., president, and Dr. W. H. Haskin, New York, secretary.

Dr. Horsley Again Honored.

At the meeting of the American Medical Association in New York, from June 4 to 8, 1917, a scientific exhibit of Dr. J. Shelton Horsley, of Richmond, Va., consisting of illustrations of original surgical procedures with drawings by Miss Helen Lorraine, was awarded a certificate of merit.

Dr. A. J. Burkholder,

Recently of Terre Haute, Ind., will spend the vacation months at his old home, Staunton, Va.

Dr. and Mrs. C. C. Coleman,

Of this city, have been recent guests at Old Point, Va.

New Medical Inspector and City Physician for Richmond.

Dr. H. Cowles Rucker has been appointed by the Administrative Board as city physician for district No. 3, to succeed Dr. Lucien Lofton.

Dr. Lofton has been elected medical inspector of the City Health Department, to succeed Dr. Henry S. Stern, who has gone into training at Ft. Oglethorpe, Ga., with the Medical Officers Reserve Corps. Both appointments are contingent upon the return of Dr. Stern to resume his duties with the Health Department.

Dr. Reuben Frank Davis

Has been elected post surgeon of the Virginia Military Institute, Lexington, Va., for the coming session.

Nurses Graduate.

At the graduating exercises of the Stuart Circle Hospital Training School for Nurses, Richmond, on June 14, seven young ladies were presented with diplomas by Dr. Greer Baughman. Dr. Manfred Call presided over the exercises and Dr. C. M. Miller made the presentation of the bandaging prize. Miss R. Z. Van Vort, the superintendent, led the nurses in the recital of the oath. The nurses decided to omit the dance which usually follows the commencement exercises, and give the money used for that purpose to the Richmond chapter of the American Red Cross. Dr. Charles R. Robins presented the gift to the Red Cross in behalf of the class of 1917.

On June 12, the Petersburg Hospital Training School for Nurses graduated six young ladies in nursing. Dr. J. R. Beckwith administered the oath and presented the diplomas.

Dr. and Mrs. R. T. McNair,

Emporia, Va., visited Richmond this month.

Alienists and Neurologists

Of the United States will meet in Chicago, July 10, 11 and 12. Since publication of our last notice of the meeting, the secretary, Dr. Bayard Holmes, 30 N. Michigan Ave., Chicago, informs us that a large number of speakers have been entered upon the program and he has been notified of the official appointments of delegates by a number of State Governors.

At Ft. Oglethorpe.

In a personal communication from Dr. Frank Hancock, Norfolk, Va., we learn that he and Dr. Lonsdal J. Roper, Portsmouth, Va., both recently commissioned in the Medical Officers' Reserve Corps, are doing duty at Ft. Oglethorpe, Ga.

Doctor Needed.

Again the call has come to us for a notice to appear that another doctor is needed at The Plains, Va. For information, address, Box 14, The Plains, Va.

Obituary Record.

Dr. George C. Brooks

Died June 11, at his home in Sunbury, N. C., aged fifty-seven years. The funeral took place in Elizabeth City, N. C. Dr. Brooks was a graduate in medicine from the College of Physicians and Surgeons, Baltimore, in 1884.

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DIABETES IN CHILDHOOD.

By DANDRIDGE P. WEST, M. D., Norfolk, Va.

I shall not attempt in this paper to present an exhaustive discussion of diabetes, nor enter into details of the various theories now under experimental research, but shall merely offer a few speculations and clinical observations on the disease in children. It would indeed be presumptuous to draw any conclusions which were not supported by all sorts of experimental evidence. In studying diabetes in children one must necessarily consider also the disease in general; for only through the knowledge of metabolism in general shall we be able to cope with the condition in childhood.

Diabetes mellitus was for many years looked upon not only as a very rare disease, but as one occurring for the most part only in later life. Moreover, its presence when found was usually the signal for a grave prognosis; and even today too many physicians are prone to frankly tell their patients that their condition is hopeless and that they have therefore only a limited time to live. Thanks to the great amount of enlightenment thrown upon the subject during the past two years, we now know that patients suffering from diabetes need not be necessarily limited so far as life itself is concerned, but may, in fact, live free from all symptoms for many years.

Among children, diabetes still remains a very serious problem, but even among these little patients modern treatment offers hope never before conceived.

Accurate statistics showing the existence of diabetes at present among children are more or less wanting. These cases are usually counted in the grand total. You will all agree with me, however, without my going into lengthy quotations, that the disease in general is becoming enormously more prevalent. Just to give an idea of what I mean, I remark that von Noorden's figures for deaths from diabetes in Berlin per one hundred thousand population show an increase in 30 years of 500 per cent. In our own country diabetes has doubled in the last 16 years; and while the disease may be said to be still rare in childhood, it is certainly becoming more common, as evidenced by the increasing reports of cases during this period.

Etiology.—When we come to the etiology of diabetes we run into a number of very beautiful theories, most of which still remain mere theories, being supported only by circumstantial evidence.

First, the law of heredity comes in for its usual role; and while there are certain cases which offer strong evidence of being inherited, I am personally convinced that heredity would be found to play a very minor role indeed if habits and environment were gone into deeply enough. However, Morrison, of Boston, cites a case of a new-born child reported as having died of diabetes taken from a mother, who also succumbed. Again, Morse mentions a series of 13 infants under one year reported by Saundby and others, but adds that there is nothing to show that the sugar in these cases was dextrose, not lactose or galactose.

As a case in point among my own series, Geo. B., age 2¾ years, gave a clean negative family history so far as diabetes was concerned, but he came direct from a line of descendants who were all either obese, gormandizers, or lived anything but a good, wholesome environmental life. Whether obesity so lessens the power of assimilation in an individual that the offspring's entire metabolic system is seriously hampered, or whether merely the tendency to obesity is handed down with a subsequent

*Read by invitation before the Norfolk County (Va.) Medical Society.

metabolic derangement in the child, I do not know. But one thing is certain: the persistent indulgence of over-energized foods, as evidenced by our present system of food consumption, must indeed place a severe strain upon the organs of metabolism. The functional capacity of each organ of our body varies, of course, with each individual case, and nature, no doubt, allows for a considerable swing of the pendulum. By good care and breeding, functional capacities might be increased. Careless breeding and wrong environmental conditions, no doubt, diminish them. Von Noorden and others have shown that familial diabetes tends to occur at earlier ages in each succeeding generation. In other words, there appears a weaker functional capacity in each succeeding generation. Heredity, then, does apparently play a strong role, but just how strong remains to be proved.

Again, we have to consider those cases that seem to arise from purely emotional causes, such as excitement, etc. Most of you may be familiar with the physiological researches of Dr. W. B. Cannon. In this connection, he has shown that about 16 per cent. of normal people may develop glycosuria under the stress of great emotion. He has demonstrated further that small irritant stimuli over a long period of time may cause profound disturbances of metabolism. It is very reasonable to suppose, then, that such stimulation may well produce a permanent glycosuria or diabetes in one already predisposed.

Civilized man is living in a state of autocaptivity, as Dr. Crile would say. A child, however, has no desire to conform to such conventionalities until forced to do so. Left to himself he would much rather run about wild, as it were, wearing no clothes, amusing himself in his own natural way, climbing, hunting, etc., according to the primitive desires of his mind. Only after many years of hard tutoring is the child finally brought abreast of the times. Modern life, unfortunately, has no such system of living, but rather, we have much restraint, little action, and *great emotion.* This ever-increasing desire for excitement on the part of the American youth as shown, for instance, in the immense patronage of melodramatic "movies," may well be the source of great harm and grave disturbances of metabolism in children.

We come now to the last factor in etiology that I wish to speak of, namely, errors of diet. In a broad sense we really may consider diabetes a disease of habit. Certainly this is quite true in the vast majority of cases. In a series of about 30 cases, which I have to report later, practically every one gave a history of marked irregularity, both in the quality and in the quantity of his diet. It is noteworthy that among the whole series only a few were over-fond of, or over-indulged in sweets. The parents of these children were more or less well-to-do, were educated and conversant with current affairs, but were wholly unmindful of just how they should feed their off-spring or regulate their habits, even where diabetes was a matter of family record. Dr. A. J. Hodgson, of Waukesha, Wisconsin, in a personal interview, stated that fully 70 per cent. of his series of over 2,000 cases, adults and children, gave a history of obesity, while fully 85 per cent. gave a history of over-indulgence in the more staple foods, such as meat, bread and potatoes.

In this connection, the following figures, taken from the National Geographical Magazine for January, 1916, show some interesting facts with regard to food consumption. Breadstuffs, for instance, play a smaller part in food consumption in America than in European countries. We in America consume 300 lbs. per capita per year, while England uses 356 lbs.; Germany, 525 lbs., and France, 550 lbs. In meats, we consume over 200 lbs. per capita, an amount exceeded only by the Australians. England consumes 119 lbs., Germany 112 lbs. and France only 80 lbs. Potatoes are consumed at the rate of 500 million bushels annually, or about 5 bushels per capita. Sugar, as you all know, was for a long time used solely as a luxury, and it is only during the last two centuries that the consumption of it has reached any great proportions. Since 1880 the world trade in sugar has doubled. We, in the United States, consume 90 lbs. per capita, or one-fourth pound per day. The fact that diabetes has kept even pace with the increase in consumption of staple foodstuffs behooves us to take stock in our treatment of children that they may be spared the diseases of metabolism in early adulthood.

I wish to ask your indulgence during the consideration of one point only regarding pathology. It is not unreasonable to adopt the premise that diabetes is essentially a dis-

ease of the pancreas. Whatever else may be wrong in the metabolic system, this one part of it demands our most serious consideration. Allen has shown us that one-eighth of a pancreas or less is sufficient to prevent the onset of diabetes. But whatever amount of the pancreas may be destroyed in diabetes, the problem remains in general the same, namely, to find the functional capacity of the organ as it exists, and then teach our patients how to live within the limits of this capacity. Just how much one can increase this functional capacity, or tolerance, remains to be proved. Unfortunately, the pancreas, unlike the liver and thyroid, for instance, is not a regenerative organ. Indeed, it would seem in many instances that the organ progressively decreases instead of increasing its tolerance. In children, the pancreas has not only to take care of the ordinary daily metabolism, but in addition it has to provide for *growing* tissues as well. Herein lies the most difficult problem; for even though a child be kept free of sugar, the tolerance appears to decrease in direct proportions to the age and weight. Dr. Greeley, of Wisconsin, cites a case in a child of 6 years, who in 1912 weighed 45 lbs. and had a sugar tolerance of 30 gms. This child was kept sugar free, and yet, in 1917, though he weighed 60 lbs., he had a tolerance of only 20 gms. It is not so much, therefore, the disease that is progressing, but rather it is the child who is progressive.

Symptomatology.—The symptoms of diabetes in children offer some interesting points of study. I will call your attention to one or two only. The lower resistant powers of the tissues and the greater susceptibility to the irritant action of sugar are very likely to cause the disease to appear in its most acute form. In fact, the majority of these little patients will give a history of rather sudden onset, usually with polyuria, polydipsia and exhaustion. In my own series, 85 per cent. of those cases in which definite history could be obtained, gave an onset within 3 months, while 17 per cent. of them were within one week. Frequent urination or marked thirst in a child are very apt indeed to cause an observant mother to seek immediate medical advice. If she does not take this early precaution, or if the physician fails to look for sugar, the case is very likely to be put off indefinitely on account of the symptoms subsiding. For here nature attempts a crude cure. The child, when first taken ill, loses weight rapidly and becomes more exhausted and languid. By reducing the body weight metabolism automatically decreases, and temporary rest is given to the over-taxed and over-strained organs. The case, unless recognized, however, soon goes from bad to worse. It is in just such cases where reduction of weight has converted a severe type into a mild one that histories of long standing are reported.

Another important symptom we meet in children is one resulting from the mental strain of treatment. It is really astounding to see how quickly some children, regardless of age, who are being treated in hospitals, will acquire a knowledge of their disease and condition. Association of these ideas with their environment, together with the gradual but more or less persistent effect of toxemia, soon produces a state of depression in the child bordering on melancholia. In others the sense of honesty and morals have entirely disappeared. A diabetic child, like a morphine addict, will persistently lie about its forbidden fruit; and only in the laboratory, where total daily excretion of carbohydrates is determined, may we be able to detect the stolen goods.

The last point I wish to call attention to in this paper is the effect which occasionally results from the withdrawal of sugar. Sugar, as you all know, is quite a stimulant, and when you withdraw this stimulant it is like taking away an old friend: the system rebels. This rebellion may appear in the form of neuritis, œdema, or rashes. Moreover, if the symptoms arise before all the sugar is gone, you may expect an exaggeration of them after the carbohydrates have all been withdrawn. However, all these unfavorable signs will soon disappear, provided the patient is kept under control and sugar free.

In conclusion, allow me to cite once more the case already referred to above, for it is certainly interesting. This youngster, age 2¾ years, came under my observation April 28, 1916, his condition having been observed about 4 weeks prior and the diagnosis made 3 weeks prior to that date. His weight at onset was 33 lbs. When I saw him, 4 weeks later, 27 lbs., a loss of 6 lbs. Polyuria and polydipsia had subsided a great deal. On fasting, he became sugar free on the fifth day, having started with 6 per cent. He remained sugar free continuously, and when heard from last, January,

1917, he was still sugar free, though his tolerance had not been increased above 10 gms. He had gained 8 lbs. since beginning treatment, while his disposition had changed from one of irritability to a jovial and pleasant one. His tolerance, when he was first examined, was not over 10 gms., and while I cannot affirm that it had decreased since the examination, I am at least sure that it has not increased.

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RAPID METHODS OF THE EARLY DIAGNOSIS OF RENAL TUBERCULOSIS.*

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In the last three years I have had referred to me fourteen cases of renal tuberculosis; of these, I have removed the kidney in four cases. All of the cases have been studied at some length, all have had careful cystoscopic examination: microscopic examination of the urine has been made, and rather lengthy histories taken. Besides these I have examined almost fifty specimens of urine from either real or suspected cases of renal tuberculosis; in some cases there have been several specimens from the same case. In looking over the histories of these cases I have been much impressed by the fact that there are no symptoms of the disease which could be considered characteristic; that in so far as my cases have shown from a detailed study of the symptoms, I was not enabled to even infer the cause of the trouble before more exact methods of diagnosis were undertaken except in the very late cases.

By this is meant that, though practically all my cases showed such symptoms as bladder irritability, painful and frequent urination, a tendency to polyuria, an acid urine, pus and at times blood in the urine, yet these symptoms and signs in themselves were not such as to distinguish the infection from other infections of the genito-urinary tract. In none of my comparatively early cases were there symptoms of pain in the kidney region, and even in the late cases pain in this region was an infrequent symptom. Though loss of weight and failure of general health were present to some extent in all my cases, yet it is remarkable how little the general health may be impaired in the early stage of the disease.

*Read before Georgetown University Clinical Society, January 27, 1917.

The great majority of these cases were referred to me with the supposition of a primary bladder infection or cystitis. It is interesting that in only three of the fourteen cases was tuberculosis of the kidney primarily suspected.

I have been so impressed with the unreliability of symptoms that I am convinced it is only by a systematic examination of all infections of the urinary tract with reference to the causative organism that more diagnoses of renal tuberculosis may be made. The symptoms must not be depended on as a basis of diagnosis, and are of value, I believe, only to call attention to an infection of the urinary tract, the exact etiology of which has to be worked out in every case by painstaking and exact urinary examinations. Impressed as I am from a study of these histories of the minor importance of the symptoms from a diagnostic point, in this small paper, based principally on a study of these cases of renal tuberculosis, I have laid little stress on the symptoms as an aid to diagnosis.

The early recognition of few diseases is of such vital importance to the individual as that of renal tuberculosis. In spite of this, we are familiar with few infections where the diagnosis is made comparatively so late. In looking over the histories of these cases, I am impressed with the fact that after symptoms of the infection had appeared, there elapsed at least ten months before the earliest diagnosis of tuberculosis was made. In the great majority of cases the infection was well in the second year before the diagnosis was made. It is hardly necessary to recall that the importance of early diagnosis arises from the fact that the disease is almost always unilateral at first and later both kidneys are affected. Quoting Kelly and Burnham, "most every case which has a bilateral involvement and comes to autopsy shows an unequal involvement—a total involvement of one and a partial involvement of the other; indicating that in the early stage of the disease it is unilateral." In my rather small series of cases three showed a bilateral involvement—a double kidney infection. I wish to call attention, too, to the fact that practically all late cases show bladder and ureteral infection, which greatly complicates treatment. Thirty per cent. of these cases, as shown by statistics, are primary tuberculosis of the kidney, and when the diagnosis is made early and the kidney removed the great ma-

jority of these cases remain permanently well: of this there can be no question.

About four years ago, Dr. Ralph Hamilton, Professor of Bacteriology of Georgetown University, first called my attention to the comparative ease and simplicity of demonstrating tubercle bacilli in the urine of cases of renal tuberculosis. Observing his remarkably successful demonstration of the organism in so many cases, I was influenced to try this method as a routine one in the examination of all kidney infections coming under my care. My cases have all convinced me that not only is the early diagnosis of renal tuberculosis practical, but it is rather easily made. For the early diagnosis of this infection of the kidney as of other infections of the kidney, I mainly depend now on the recognition of the organism in smears made from centrifuged specimens of urine. At first, I was impressed with the idea that it was necessary to use a very rapidly revolving centrifuge in order to throw down the bacilli, and about a year ago, when Crabtree wrote a paper giving specific direction for centrifuging the urine in these cases, I followed his technique for some months; lately, I have been impressed with the fact that almost any centrifuge will throw down enough bacilli to be easily recognized when stained specimens are made in the usual way of hunting for tubercle bacilli in the sputum. I have in many cases found the bacilli in the sediment of the urine allowed to simply gravitate in a sediment glass, yet, of course, I appreciate that the centrifuge is much more exact. Different methods of staining have been tried, but I think the old Gabbett method of heating carbol-fuchsin to steaming for three minutes on the smear and then counter-staining with acid methylene blue is as successful as any in my hand. As pointed out by Cabot and Crabtree, tubercle bacilli are always plentiful in urine from a kidney with tuberculosis, as is proven a priori by the fact that guinea pig inoculation with only a cubic centimeter of the uncentrifuged urine, is almost always successful in producing tuberculosis, showing that the tubercle bacilli are in such numbers that no concentration is necessary by certrifuge, etc. I am, of course, well aware of some danger of the diagnosis of renal tuberculosis by smears made from centrifuged urine alone. I have myself come across two cases where men of large experience in bacteriological work have evidently mistaken the smegma bacillus for the tubercle bacillus. I am, however, thoroughly in accord with the observation of Crabtree, that the smegma bacillus is not present in the bladder urine except by contamination and is even less likely to be present in the catheterized urine obtained by ureteral catheterization. So that, though this is a possible danger, yet, when checked up by repeated examinations and the clinical findings, there is little possibility of this error being made.

Where there is the least doubt after careful cystoscopic examination and obtaining a specimen of urine from the infected kidney, I believe that guinea pig inoculation should be done and, if possible, done by the rapid method suggested recently by J. J. Morton, of Boston. The guinea pig is first treated with the X-ray for several minutes. This appears to lower its resistance to the tubercle bacillus. A subsequent inoculation with the suspected urine will often be followed by tuberculosis in from seven to nine days. My own experience with this method has been very limited, but it appears to be a distinct advance in the rapid diagnosis of tuberculosis. I have, of course, cystoscoped all my cases and from the cystoscope have learned much valuable data, especially valuable in determining what operative procedure to take. I have been particularly impressed with the value of the cystoscope in determiing the condition of the bladder, whether ulcerated or not; the probable condition of the ureter as indicated by the condition of the ureteral orifice; and in most cases the cystoscope was necessary to tell which kidney was affected, as the symptoms were inconclusive. It is a primary consideration, too, to learn the condition of the second kidney, if there is one. (I have had one case of renal tuberculosis in one side of a horse-shoe kidney.) It is, of course, an important function of the cystoscopist to note the function of the separate kidneys after ureteral catheterization. All of these proceedings are of vital importance to the patient in the future handling of the case, but I insist that the general practitioner or the general surgeon who treats these conditions is not without responsibility on account of his inability to use the cystoscope and that he owes it to his patient and himself to examine carefully and exactingly a centrifuged specimen of the urine in every chronic urinary infection for the

causative organism. I am certain that they will be able to find the organism and with little or no difficulty.

At the time of operation, after removal of the kidney, I have, as is usually done, sliced the kidney from pole to pole and have been impressed with the minuteness of the focus of infection in early cases. A patient may have the most intense bladder irritation and the urine be loaded with bacilli, yet the kidney when removed may show macroscopically the smallest foci of infection.

A study of my own and other specimens has indicated in the early cases an infection around the glomeruli, as pointed out by Baumgarten and others, and in none of the cases did there seem to be a focal infection in the pelvis of the kidney or in the lower medullary part of the kidney, though these parts are often secondarily infected. Hence, I believe that, though collargol injection of the pelvis of the kidney at the time the ureters are catheterized is of value in the advanced cases as a diagnostic aid, yet in the early cases the pelvis of the kidney has been changed so little that the X-ray plate taken with the collargol *in situ* will show no recognizable change in the pelvis.

In the cases that I have been able to follow and whose urines I have examined for tuberculosis the diagnostic results have been very successful. In only about one in ten of these cases have I not been able to find tubercle bacilli in cases that have afterwards shown tuberculous infection. I have, of course, been compelled at times to make repeated examinations, but in the vast majority of these cases there was no difficulty in finding the organism.

I am thoroughly convinced that the ability of the observer to find the tubercle bacillus in a tubercular urine depends directly on the interest of the observer in the case. The cystoscopist who is thoroughly familiar with the clinical findings and has a direct interest in the case should do this himself. The laboratory man, however competent, knowing little of the case and having no direct interest in the case, will repeatedly pass over the examination and give a negative result. I have had any number of such reports. Careful, slow and painstaking examination of these suspected urines will show the tubercle bacillus in almost every case where there is a tubercular infection. As I examine more and more cases of tuberculosis of the kidney, I am fast becoming convinced that careful examination of the urine, as suggested, will show the tubercle bacillus in all cases.

In conclusion, I feel that every physician who treats urinary infection cannot longer be satisfied with the simple examination of the urine for pus and blood. He must in every case determine the causative organism present, and I am equally sure that he will not find this a difficult or onerous task if he will only develop the habit of looking for the cause of urinary infection. I am not unmindful of adding another burden to the already over-burdened practitioner of medicine in insisting on the examination of stained specimens of centrifuged urine in every case of infection of the urinary tract, but he who treats urinary infection must assume this burden.

We must in every case of urinary infection develop the habit of determining the organism causing the infection. We must get the habit of using the centrifuge more generally in all our urinary infections. We can with a little care and observation easily eliminate urethral and prostatic infections. In the absence of these, a catheterized specimen of urine is urgently demanded. This specimen in all probability contains the causative organism and, if centrifuged and the sediment examined, will show the organism in unmistakable numbers, whether it be the tubercle bacillus or other organism. At least two smears should be made of the centrifuged specimen,—one to be stained with a simple stain for ordinary organisms, and the other to be stained for tubercle bacilli.

It is, I feel, by such routine examinations only that the practitioner will be enabled to make more diagnoses of renal tuberculosis and especially more early diagnoses.

The Farragut.

MELANCHOLIA: SYMPTOMS AND TREATMENT.*

By W. C. ASHWORTH, M. D., Greensboro, N. C.
President of Glenwood Park Sanitarium.

C. L. Allen, in an article recently published (1917), says that melancholia presents exactly the opposite condition from mania, since its characteristic features are depression and psychomotor retardation, in connection with which, in well-developed cases, there are de-

*Read before the Eighth District Medical Society of North Carolina, June 20, 1917.

lusions of a depressive character. He says that the Kraepelin school classes both melancholia and mania, under the name "manic-depressive insanity," since the majority of cases of melancholia show an alternation of exaltation and depression. The Kraepelin school makes an exception of states of depression occurring about the climacteric, which are specially described as "climacteric" or "involutional" melancholia. Allen, however, says that the view of Kraepelin regarding involutional melancholia as a separate disease is not universally accepted, and he (Allen) considers melancholia as a symptom-complex with different phases.

The characteristic symptoms of melancholia are mental and motor retardation with morbid depression, and the disease has been divided into two stages: (1) simple depression or hypomelancholia, and (2) acute melancholia. Further divisions are: anxious or agitated, atonic, stuporous, and hypochondriacal melancholias. Among the symptoms of acute melancholia are the following: The patient accuses himself of all kinds of offences; sits brooding in one position, with his face expressing his mental distress; orientation and sense of proportion are lost; hallucinations and illusions of sight and hearing develop; he refuses food (as a penalty for his sins); there is a lack of appetite; sleep is disturbed, often by distressing dreams; sometimes there is complete insomnia; the tongue is coated, the breath foul, digestion slow, the bowels are constipated, and respiration is usually slow and shallow. There is also generally a complaint of weakness, pain in the limbs, headache or feeling of pressure in the head, and uneasy sensations over the precordium; and finally attempts at suicide may be made.

With regard to the treatment of melancholia it is said that the first requisite is isolation—removal from the family and from the environment in which the psychosis has developed. The danger of suicide is great in even the mildest cases of melancholia, hence the patient must be under constant surveillance; the patient is not to be left alone "either night or day," says Church and Peterson. A modified or a complete rest-cure is advised, and also the following dietetic and medicinal treatment are recommended. The food should be easy of digestion, and should consist largely of milk, with raw eggs, meat-juices, such milk-products as koumiss, matzoon, etc., and certain stimulants, when these latter are indicated. Massage and general faradization (strong enough to contract the muscles), in cases taking the complete rest-cure in bed, are useful; constipation must be overcome by abdominal massage and frequent purgation; such gastro-intestinal antiseptics as salol, or beta-naphthol should be given three times a day, two hours after eating in cases of auto-intoxication; for sleeplessness the prolonged warm bath or the hot wet-pack are advised, but where they fail to induce a few hours' sleep in each twenty-four hours, such hypnotics as sulphonal and trional may be used.

"The opium treatment is a sort of specific for melancholia, especially when there are agitation and precordial anxiety and distress. Beginning with a medium dose three or four times a day, we gradually increase it as required. Laudanum, the solid extract, or codein may be administered by mouth. When employed hypodermatically, which is usually best, the watery extract of opium is used. It is preferable to administer morphine only in the most aggravated cases, and in these it may often be advantageously combined with hyoscine, hyoscyamin, or duboisin."—(Church and Peterson).

The above writers add that the opium treatment should not be made known to the patient, and, as he improves, the opium is gradually reduced until it is finally cut off altogether.

As soon as possible, out-door physical occupation for the patient should be begun and encouraged.

BIBLIOGRAPHY.

Allen, Charles L.—Melancholia.—Stedman's "Reference Handbook of the Medical Science," v. 6, p. 345-347. W. Wood & Co., 1916.

Benham, F. L.—A Case of Acute Melancholia Treated by Blood-letting.—*Lancet*, 1915, v. 2, p. 543.

Church, Archibald, and Peterson, Frederick—Nervous and Mental Diseases.—W. B. Saunders Co., 1914.

Courtney, J. W.—Concerning the *Raison d'Etre* of the Term "Involutional" as Applied to Melancholia.—*Boston Med. and Surg. Jour.*, 1916, v. 174, p. 416.

Dercum, Francis X.—A Clinical Manual of Mental Diseases.—W. B. Saunders Co., 1913.

Fuller and Klopp—An Examination of Three Thousand, One Hundred and Forty Admissions to Westborough State Hospital with Reference to the Frequency of Involution. Melancholia (Kraepelin's Melancholia).—*Jour. Amer. Inst. Homoeopathy*, 1911-12, v. 4, p. 855.

Hamill, R. C.—Manic-Depressive Insanity of Recurrent Melancholia on a Basis of Dysthyroidism.—Med. Clinics of Chicago, 1916, v. 2, p. 75.

Jelliffe, Smith Ely, and White, William A.—Diseases of the Nervous System.—Lea and Febiger, 1915.

Kraepelin, Emil—Lectures on Clinical Psychiatry.—Trans. by T. Johnstone, p. 1-10, etc., W. Wood & Co., 1913.
Morris, Robert—Melancholia Relieved by Trephining.—*Ann of Surg.*, 1915, v. 61, p. 497.
Mould, Gilbert E.—Simple Melancholia.—*Medical Magazine*, Jan. 1912, v. 21, p. 21.
Porteous, C. A.—A Brief Report of Two Interesting Cases of Melancholia.—*Amer. Jour. of Insanity*, 1912-13, v. 69, p. 755.
Robertson, G. M.—Morison Lectures: The Differentiation of Melancholia, the Depressive Phase of Manic-Depressive Insanity.—*Jour. Mental Science*, 1911, v. 57, p. 416-458.
Robertson, Geo. M.—On Melancholia.—*Med. Press and Circular*, March 22, 1911, v. 91, p. 302.
Smith, H. A.—On Melancholia: a Medical, Literary, and Artistic Study.—*West London Med. Jour.*, 1911, v. 16, p. 89-111.

THE SPIRIT AND TREND OF MODERN MEDICINE IN THE SOUTH.*

By J. ALLISON HODGES, M. D., Richmond, Va.

Mr. Chairman, Members of the Association, Ladies and Gentlemen:

Your kind recognition of my past services to the profession and to this association in having elected me as your President, is equalled only by my appreciation of that distinguished honor.

To serve you, is as much a pleasure as a duty, and in further acknowledgment of such responsibilities as this occasion demands, I desire to discuss with you this evening some of the opportunities offered for individual effort and co-ordinated service in advancing the interests of our profession, and to consider especially, in the presence of this audience representing three Southern States, "The Spirit and Trend of Modern Medicine in the South."

This, as you are aware, is an era of unusual unrest and everchanging conditions in the scientific, as well as in the moral and material world.

Nowadays, nothing is stable, nothing is steadfast, nothing is satisfying, and the idol of yesterday is often the memory of today.

To meet such conditions as these, then, and preserve a sane balance against the oncoming and increasing demands of the future, new forces of mind and soul and body must be called into requisition, and set to work, to stem the tide and direct aright its resistless energy. For this reason, even the professions must be protected and safeguarded, not only by personal effort, but by concerted, collective organization, if their best traditions would be preserved in the midst of these abounding and ceaseless activities.

This opportunity, consequently, offers medical men a privilege which is as inspiring as it is alluring, for never was the game of life so entrancing, never was the pride of ambition so enthralling and never was the path of scientific attainment so magnificent nor so fulfilling as the present.

The spirit of Modern Medicine purified and idealized by the experiences and exactions of the past, is today serving better than ever before the best interests of our race, not alone by ministering to physical needs, but by preventing disease and thus preserving physical and mental efficiency, for prevention is now the watchword of the modern medical world.

Standing here, however, in the classic halls of this Southern center of higher education, it is unnecessary to define in detail what is meant by the "spirit" of modern medicine, for, in our profession, as in yours, the "spirit" of today spells the "service" of tomorrow, and in both, it is this indefinable, intangible entity that energizes and intensifies an idealism of purpose, thought and action that makes for higher and better things in educational, professional and commercial life.

I believe, however, that, in the South, there is evident an especial spirit of service, born, if you please, of a peculiar temperament in a people reared under peculiar conditions and environments; a spirit as high-minded, as noble and as generous as the Southerner himself. If this were not true, I might expect you apostles of higher learning, for example, even here to be ready and sympathetic converts to that recent theory of education, conceived by a retired idealist and an administrative officer, and promulgated by the plethoric purse of a generous benefactor, which in its attempt at the modernization of elementary and secondary schools, would apparently sacrifice all of the past learning to the prosaic culture of money-getting and gainful pursuits.

I repeat, that if in the South there were not educators who were inculcating a nobler spirit in ingenuous youth, a spirit which puts high ideals above selfish and sordid aims, this "bread and butter program" of education, in

*President's Address, delivered in Trinity College Amphitheatre, before the 19th annual meeting of the Tri-State Medical Association of the Carolinas and Virginia, February 21, 1917, Durham, N. C.

which there is neither imagination nor idealism, and which is now in high favor in some other sections, and in which, to the uninitiated, "unblushing materialism finds its crowning triumph," might be adopted here.

May we not indulge the hope, however, that the true spirit of education which you here inculcate, may still burn bright with a glowing flame of enthusiasm for a higher plane of useful service, even though the system be considered ancient, and still redolent of those old theories and vast accumulations of human thought which have always tended to the development first and always of the personal character of aspiring youth?

Likewise, in the growth of modern medicine in the South, it seems to me, and I trust I am not partial nor partisan, that there has been a higher and nobler spirit of consecration and service than there has been in some other sections, a spirit which has not been purely commercial nor wholly material, but a personal, as well as a professional spirit which has been actuated by high-minded motives for the individual and general welfare of the people, and I believe that this can best be interpreted and understood by a brief consideration and analysis of the social life and civil conditions which have prevailed in the South in the past, and which have resultantly developed the spirit and character of her people.

Socially, the old South was modeled upon a singular semi-feudal system, and, like "All Gaul," was divided into three parts: the slave-holding planters, the negro slaves, and lastly, the non-slave-holding whites.

The first-class, the slave-holding planters, was relatively small in number, but mighty in wealth and authority, and, in fact, the old-time aristocrats of this social system, and a ruling class of a high order of ability; the second, the negro slaves, was the dependent class, which by the millions sowed the seeds and reaped the harvests, and fostered the predominance of rural life over that of the city, thus favoring the maintenance of the patriarchal tendency of slave-holding, and the third was the "Cracker" whites, who were sui-generis, neither masters nor slaves, but between two social fires, themselves personally independent and disdainful of the pervailing system on the one hand, and on the other, the object of frequent derision and contempt by both negroes and whites.

In this way, these latter became a class unto themselves, and if by dint of extraordinary industry or good fortune, one of them rose to ownership of land or slaves, his social position was scarcely improved, and still barred from the house and home of the planter, he was even yet to the negro nothing more than "poor white trash."

At last came the War between the States, and it proved to be a great leveler.

The ante-bellum characteristics just noted were changed, distinctions based upon wealth were eliminated, social adjustments were fitted to the new order of life and economic necessities produced a raw but dominant ruling class in the new South.

This change in social and civic conditions was abrupt. New adjustments must be made and new standards adopted, for the scepter of leadership and authority had passed from individual keeping. The gentleman of the "old school," however, could not readily accommodate himself to the newly existing conditions, and out of this stress and strain and strife were born the seeds of a discontent, which in large measure, have shaped and shadowed the South's checkered history.

The old South was a land of classes, rather than masses, and the inherited cavalier spirit furnished a type of citizen, impetuous and generous, but haughty and imperious, and in the consideration of the existing conditions and tendencies of this unusual social system, proper regard must be given to that entity, "the personal equation," which during this period individually characterized to an unusual extent the life of the Southern people, and molded and fashioned it to the customs and traditions of that day.

By heredity and by training, this ego became a silent but positive and powerful force, and though not always apparent, was under certain circumstances a factor which must be reckoned with, for almost unconsciously to the people, personal self-esteem had been unduly fostered and had become unfortunately a dominant trait in Southern life and character.

Again, this tendency was in part temperamental, but its basic foundations were rooted in the old social system that for so long pre-

vailed, that no matter who were the lords, they must be respected and obeyed by the vassals of a lower class.

The passing years changed masters, but not men, and in this succession, there were those who were ever ready to imitate the manners and methods of their predecessors and quick to resent any reflections upon their newly-acquired rights or dignity, and thus, through varied experiences, the character of this people was slowly, but distinctively evolved.

This interpretation and explanation of the inherent and acquired tendencies of Southerners may appear in a measure unusual and fanciful, but it is entirely in line with the psychological evolution and development of a people, influenced by subconscious impressions and influences which had been gathered through 250 years of semi-feudal life, and at last had been ruthlessly ended by a sudden and violent cataclysm, which seared with lasting scars their pride, and upset all former standards and creeds of social life.

From out of this "melting-pot" of feudalistic caste, inherited tradition and ancient customs, came, as we believe, the Southern spirit and, as well, the character of the old-time doctor of the old South.

In this presence, there is no need to picture him, for his like is well and lovingly known to you all. By birth, breeding and education, a gentleman, his profession frequently was more a matter of custom than of special aptitude. In all his relations to life, however, he placed honor and character above price or pelf, so far as I have ever heard or known, and while in his professional work he relied more upon his powers of observation than upon any special technical knowledge, yet, like Ian MacLaren's Dr. Weelum MacLure, he was an all-round specialist and a successful and forceful member of society.

The old-time landlord system which then prevailed, fostered to an unusual degree the development of that wholehearted spirit of personal patriotism which was generously reflected in the daily services of the physician to his patients, and while in his personal affairs, he was usually lax and without system, and generally unbusiness-like, yet he served well the demands of the passing years, for in his service were combined, honor for his profession and love for his fellow-man.

Indeed, in the country doctor of this "old school," the spirit of the old South was best exemplified perhaps, for in him were illustrated those dominant qualities which shone the more conspicuously because of his position and prominence. High-minded and generous-hearted, he was full of love and charity to his patients, and though easy-going and careless in matters of personal business, he was yet all devotion to the needs and appeals of his patients, and in return received their grateful appreciation and love, if not always their pecuniary reward, for with him the practice of medicine was a profession, and not a business!

At this time, most of the participants in that era of which I have spoken, have "passed over the river," and those who have not, have passed out of the Egypt of hatred and rebellion into the Canaan of reconciliation, and a new type of manhood fitted to the exigencies of the new conditions has been born and reared, and is rapidly and happily adjusting itself to the new order of life in the South.

In like manner, a new generation of doctors has arisen, and the classical doctor of the old South has given place to the modern medical man of the new South, under the changed conditions which have been wrought into the social fabric and civil life of this people.

Retaining many of the virtues of the old regime, but with a spirit of less self-abnegation, this new type of physician has striven to meet the perplexing problems that have continuously arisen in the development of the science and art of medicine.

To accomplish this, many adjustments have been necessary, and foremost among these, a better technical and professional preparation and education.

The old classical courses of premedical education have been replaced in part by more special training in the sciences, and glittering generalities have in a large measure been succeeded by practical and detail work in the various scientific laboratories, and as a result, a better and more broadly educated type of physician has been developed.

Professional education in the South has been continuously systematized and enlarged as the years have passed, and in the present

scheme more attention is paid to disease-expressions than to the patient's personality, as in the olden days.

Precision has largely supplanted observation, and the study of pathology and kindred sciences has broadened and enriched the fields of scientific, experimental and preventive medicine, and today we have a new spirit of professional endeavor.

Along with these advancements and developments, have come changes in the profession which it is well that such associations as this should study for the best interests of all concerned, patients, as well as physicians, in order that the trend of professional progress in the South may be conservative, and yet abreast with the requirements of modern medicine.

In the South, the profession is notably free from many of the evils that elsewhere in our country have imperiled its standards, but because of the personal relations existing between patients and physicians, and especially because Southern doctors are natural-born politicians, as well, the present-day professional privileges afford opportunities for self-advancement and power manifestly greater than ever before, and the profession should not be unmindful of these changing conditions and consequent dangers.

Likewise, the modern country practitioner, the backbone of the medical profession, has today an enlarged scope for usefulness to his community never before possible in the South.

He not only serves his constituency of four or five hundred patients in acute illnesses, but he now advises in matters of sanitation, personal hygiene, dietetics, etc., and also serves his community as the local public health official, the medical member of the school board, and as the chief of the medical or surgical staff of the county or community hospital.

With this increase in duties, has come added responsibilities that call for the most devoted services of the physician in civil, as well as professional life.

The trend of modern medicine is upward and onward, but its progress in the South is menaced by a new spirit of commercial materialism, just as is that education, which was unknown in former days.

A new social order is casting its shadow across the path of the future of medicine in the South, and the sound judgment and scientific knowledge of every physician is demanded as never before in our history, for there are movements now on the threshold of civilization, with which the medical profession in the South should be most vitally concerned.

Shall we read aright these new conditions and visualize correctly the future, or shall we sit apathetically, as did three years ago our brothers in Great Britain and Germany, and permit without challenge the enactment of laws inimical to the rights and liberties of our profession, and resultantly prejudicial to the best interests of society?

In the South today, as elsewhere, a new social fabric is being weaved, and whether the physician wills it or not, new professional interests are being brought into the work of our lives, and it is our duty to safeguard them by a manly assumption of our civil as well as professional responsibilities.

By training and by proper estimation, we physicians of the South, if we would exercise our proper privileges, have the power and the opportunity as never before to solve some of these perplexing problems of medical practice, which though related to the concomitant changes in society at large, rest for solution primarily and finally within the competence of the medical profession.

It is unnecessary to name in detail all of these changing conditions which are now confronting the profession, but some are so notable in their probable effects upon the future of medicine in the South, that they cannot be overlooked.

Among these may be mentioned briefly, the growing tendency of the Federal Government, and of the local Governments of States, counties and cities to centralize and appropriate to themeslves the functions and privileges of the general practitioner; the tendency of incorporated colleges of medicine, through endowed dispensaries and hospitals, to treat large numbers of patients without expense to the individual; the tendency to institute a system of flat medical fees in hospital and dispensaries for pay patients; the tendency to institute in some States, though not yet in the South, a system of compulsory industrial health insurance, regulated for the individual as well as for the physician, by legal statute as to liabil-

ity and compensation; the tendency of large corporations to institute medical supervision and to employ by contract the services of medical and surgical practitioners to safeguard their special interests; and in the ranks of the profession itself, the growing tendency to specialize in institutional medicine, to form group-clinics in the practice of the profession, and to establish county or community hospitals, and the standardization of hospitals, hotels, and schools.

All of these innovations have their advantages, but some of them are fraught with grave dangers to the inidvidual physician, and especially the recent graduate. To square the circle, to be progressive and not obstructive, to meet fairly and justly the requirements of the changed and ever-changing conditions in the South, requires, I repeat, a judgment, sane and unprejudiced, and the exercise on the part of the physician, of a knowledge and of a service, hitherto unknown and unexercised.

The physician of today, to meet these requirements and exigencies, must be a more broadly educated man, and must prepare himself in such a way that his opinion and advice shall carry the weight of absolute authority in translating his conclusions into proper standards of medical practice.

In a certain degree, the solution of this problem has been inadequately met by the development of specialism in medicine, but even this is but one of the evidences of a transitional period in the progressive tendencies of this age, for the public today is already demanding a more thoroughly educated and well-rounded physician than the modern specialist of the recent past, who trained himself only in the technicalities of a closely circumscribed field, and whose patients consequently often suffered from special attention to one organ and general neglect of the others.

The trend of modern medicine in the South today, then, is not towards specialism, but towards the injection of more medicine into surgery and more surgery into medicine, and in the direction of a broader culture which recognizes that physiology is one coherent process of activity and compensation, and, that to be master of the day and the future, the physician must, along with these scientific requirements, recognize as well the demands of preventive medicine, and also his civil and professional responsibility in public health matters, for new ideals in the care and treatment of disease are imposing new obligations upon the profession and upon public authorities in the South, and raising questions of economics, law and medicine which demand the most thoughtful consideration. We have just cause for pride in what has already been accomplished, but our past successes should only inspire and challenge us to seek greater victories.

It is unnecessary here to rehearse in detail the recent advances of modern medicine, for that long and honorable roll of achievements is well known to you all; but it is an inspiration even to name some of these more recent national and international promoters and investigators of medical science, and consider their services in the progress of modern medicine.

Who does not thrill at the mere mention of such names, for instance, as Lister, Pasteur, Abderhalden, Roentgen, Koch, Lazear, Laveran, Widal, Wassermann, Noguchi, Czernic, Helmholtz, Metchnikoff, Nitze, Reed, Gorgas, Blake, Davenport, Hayes, Wright, Armstrong, Rupert Blue, Dakin, and Alexis Carrell, and many others who have built the bulwarks of our great profession? The crowning triumph, however, of modern medicine, generally speaking, is that now for the first time since Colonial days, American medical men are going to Europe to teach, and not to learn, for since the beginning of the present European war, American medical science has won a new place in the eyes of the world, and this conquest, says Haskin, is primarily a triumph of recognition for the practical qualities of the American mind.

Need I mention the American Hospital in Paris where distinguished European surgeons have come as pupils to sit at the feet of such Americans as George W. Crile, of Cleveland, the discoverer of anoci-association, or Harvey Cushing, of Harvard, the great brain surgeon, or Richard Harte and Fred Alvee, both of whom in plastic surgery and bone-repair work have made of their surgical specialties in restoring shattered human bodies, a science as mechanically exact as high grade cabinet work, and also many others of the highest ability and reputation who have done equally wonderful and distinctive surgery? Likewise, I might

mention in this connection the work of other American physicians who have recently played an important part in the development of medical science by successfully applying the theories and principles evolved in Europe, and among this number stands out boldly Rupert Blue, who came from our very midst, and who has prevented Bubonic plague by rat-proofing whole cities, and thus making practical the discovery of the method of infection by Verbitzky, a Russian; and of Gorgas, who applied at the Canal Zone the discoveries of Laveran, a Frenchman, Grazzi and Bignani, Italians, and Manson and Ross, Englishmen, and after France had failed, made of a well recognized plague-spot, one of the healthiest in the tropics, and opened up in that region vast possibilities of development for the future.

In like manner, a Frenchman discovered the source of transmission of typhus fever, but as with the yellow fever in our tropics, its conquest in Serbia has been a purely American achievement, for which two young American physicians, McGruder and Donnelly, laid down their lives as did our immortal and lamented Walter Reed, in his study of yellow fever.

And, as Fred Haskin has so aptly expressed it: "In this combination of practical purpose and emotional spontaneity is seen the dominant spirit of our profession and the outstanding characteristics of our nation."

In the progress of modern medicine in the South, our profession can lay claim to but mediocre attainments in scientific research, or in discovery and analysis of natural forces, but with the true American spirit, it has been pre-eminent in making practical and useful the work of others, for, with pioneer blood in our veins, it has been our task to make what comes to hand, serve well our purpose.

In this movement the South has been no laggard, and public need has become a personal concern, for never before in the South was the physician's conscience so alive to its duties as it is today, when in its beneficent spirit it looks always beyond the individual to the best interests of the public good.

In the ardor of professional endeavor, individuality has been submerged, syndicated science has found no favor, and as a result, epidemics have been modified and checked, and the public health, through sanitation, marvelously improved.

When we remember, moreover, the growing and striking development of this section of our country, with its 35 millions of people, and remember that in 1900 the entire population of the United States was only 75 millions, and that there was a gain of 42 per cent. last year in the South's total agricultural and animal products over the preceding year, and that this was only 8 per cent. short of the total production in the United States in 1900, we can readily conceive what the future is to be, and what the demands correspondingly will be upon the medical profession, for as never before, we of the South are today in the presence of great world forces which are rocking the very foundations of civilization.

With this physical growth and expansion, however, there is danger to our profession, for as life grows easier, sacrifice becomes harder, and we never wish the profession to become so rich in material possessions that it will be poor in spirit, for the doctor's unselfish spirit is his greatest legacy and best inspiration for professional and universal service.

The problems that will necessarily arise must be studied and adjusted to meet the requirements of these times, and fortunately for us, many of the dangers confronting our profession in other sections of our country, are notably lacking, for fee-splitting, for instance, which has been a disgrace and menace elsewhere, is unknown to the regular profession in the South.

There are other evils, however, which demand earnest consideration, for they are threatening the integrity and best interests of the profession and of society. Among these are the national passion for the use of habit-forming drugs, which though greatly limited by recent Federal enactments, is yet a menace in the South, the management and control of specific disease by some approved and concerted method, and likewise, the advertising in the daily press of secret medical remedies and other similar evils. The suppression of either or all of these may well call for the best unified efforts of this, or any other Association of physicians, and the Southern Profession was never so united as now, and never so competent

and able to stay the march of such blighting and menacing evils, if it would only act!

The physician has now a new ally in the co-operation of Federal, State and Municipal Health Boards, and with the continued increase in education in health matters, lies the profession's hope and the nation's remedy for a virile and healthy citizenship.

The efficiency of this co-operation and united effort of physicians and laymen has been most potently shown in the last few years, for example, in the anti-tuberculosis campaign which has reduced this special death-rate in ten years in the United States from 200.7 per 100,000 population, to 146.8, and even here in the Carolinas and Virginia, has increased, in the same period, the number of tuberculosis sanatoria from 5 to 28, the number of dispensaries from zero to 9, and the number of anti-tuberculosis associations from zero to 35, with also the establishment in addition, of 14 open-air schools. In like manner, systematized and united efforts in the reduction of infant mortality, in the study of mental factors in dependency, delinquency and crime, and the campaign for the conservation of the health of school children have yielded brilliant results. It may not here be invidious to say that in this work of educating the public in health matters, the North Carolina motion-picture health-car appears to be the most efficient single agent so far utilized in the solution of this problem, for it has been the forerunner in this propaganda of disease-prevention, by carrying the lessons of the laboratories to the very doors of the rural homes.

This accomplishment is but one of the many evidences that such associations as ours have yet great undertakings before us, for no one better understands the social, economic and medical needs of the South.

The recognition also of the preventable causes of mental disease in the South challenges us in like manner to seek in the field of mental hygiene victories comparable to those achieved in general hygiene and sanitation, and render possible the practical management of delinquency, crime and inebriety, as well as the control and correction of feeble-mindedness and faulty adaptation in the children of our dependents, so that the spirit of our profession may be realized in its most beneficent practice.

To paraphrase what a great English philosopher once said: "The first duty of mankind is health, the second duty is to fight to get it."

Knowledge alone shows the only pathway that leads to this goal, and we, as the standard-bearers of modern medicine, must continue to serve our day and generation with increasing intelligence, industry and integrity, by scientific service in research and investigation, by earnest study especially of the conditions and diseases which prevail here, and by the infusion into our work of a genuine spirit of broad humanitarianism, if we would have the South, rich in resources and radiant with promise, rise to her proper and merited position in national estimation and appreciation.

WHAT WE KNOW TODAY ABOUT THE PHYSIOLOGY OF THE TONSIL.*

By D. A. KUYK, M. D., Richmond, Va.

I wish to present, as briefly as possible, the latest deductions concerning the physiology of the tonsil based upon its known histology.

The most elaborate studies of the structure of the tonsil prove it to be lymphoid in character, analogous to Peyer's patches and other lymphoid structures.

A very voluminous literature has arisen in the recent past embodying the six theories concerning the function of the tonsil:

1. A protective function through the hemopoietic power.
2. The hemopoietic theory.
3. As a member of the endocrine system, having an internal secretion.
4. The eliminating theory.
5. That affording immunity.
6. The physico-mechanical function.

1. *The Protection Theory.*—This attributes to the tonsil a protective power to the organism not only from the bacteria within the tonsil crypts but also those that enter through the nasal mucosa as well as through the mouth.

It is not yet definitely known whether this power is due to the phagocytic action of the leucocytes; to the incessant "streaming-through" of cellular elements through the interstices of the epithelium, thus preventing the entrance of organisms—the theory of Goerke

*Read before the forty-seventh annual meeting of the Medical Society of Virginia at Norfolk, Va., October 24-27, 1916.

and his followers,— or whether to the endothelial cells of the reticulum, which are much more active phagocytes than the polynuclear leucocytes. Whatever power the tonsil may have is very likely due to a combined action of these several agencies rather than to any one of them. It cannot be denied that the tonsil does have a restraining influence upon the entrance of bacteria into the body, just as does any other lymphatic gland. It may be well called the first line of defense.

This theory is perhaps the most popular and is advocated and supported by numerous European authorities,—Guland, Brieger, Goerke, Labbi, Siruge. Hodenpyl, Lenart, and many others.

In this country this theory has few supporters, but a number who deny it,—Barnes, Goodale, Wright and others.

Barnes well says: "The question must ever be one of the mastery between two contending forces; on the one hand, the number and virulence of the organisms in the crypts, and, on the other, the forces of resistance of the individual, whether they be local and inherent in the tonsil, or general, and depending on antibacterial chemical conditions of the blood and lymph."

2. *The Hemopoietic Theory.*—This alone of all the theories rests on definite histologic findings. It relates to the production of lymphocytes in the germinal centres of the lymphoid follicles. Many of these lymphocytes make their way through the epithelium into the crypts and constitute part of the cheesy masses so often found in the tonsil. How many of them find their way into the general circulation through the efferent lymphatics is uncertain. It is not probable that of the vast numbers of lymphocytes produced in an active tonsil of childhood a large proportion enter the crypts. Yet, if this is not the case, one of two things must happen: either the majority must find their way through the efferent lymphatics into the general circulation, or the tonsils become enormously hypertrophied through their accumulation in the reticulum. There results then hypertrophy of the tonsil, of the number of follicles, in their size, in the relative size of the germinal centres and in the increased activity of the cell division.

It is also a suggestive fact that the lymphoid nodules of the body show their greatest activity during the growing years of the child and this activity diminishes, in many of the nodes ceases altogether, at or about puberty. It is doubtless true that one of the chief functions of lymph nodes is the production of lymphocytes for the blood; and in this service the tonsils play an important, though by no means, an indispensable part.

3. *The Internal Secretion Theory.*—This was originated by Massini and he is so far its only advocate. It would make of the tonsil a member of the endocrine system.

There is no affirmative proof in support of this theory but that of Massini who, injecting tonsil substance into dogs, observed elevation of blood pressure. The same experiment repeated by other observers resulted in lowering it in some instances, and entirely without effect in others. It would be interesting to know if electric stimulation applied to the sympathetic nerve-supply of the tonsil would result in an increase of its secretion such as occurs in the accepted glands of the endocrine system. So far as I know, this experiment has not been made.

The fact remains, however, that of the countless thousands of individuals who have had their tonsils removed, no case has been reported where any harm has occurred to the individual. This, seemingly, disproves this theory unless the tonsil, as a lymphatic structure, has an internal secretion. If so, it is a secretion common to all lymphatic structures, and, therefore, this function may be assumed by other glands when the tonsil is removed.

4. *The Eliminating Theory.*—Ashurt, the originator and only advocate of this theory, asserts that "the tonsils act as eliminating organs in common acute infections. Inflammation of the tonsils in such infections is secondary and may be ascribed to an effort on the part of the lymph nodules to eliminate offending organisms." A case of acute tonsillitis following a septic lesion of the hand is so interpreted by him.

Barnes reports two cases under like conditions but explains the coincidence, "that the pharynx and tonsils and other lymph nodes of the pharynx are extremely susceptible to infections that have entered the blood stream."

5. *The Immunity Theory.*—Good, the origi-

nator, is the only advocate of this theory which one author calls "the product of scientific imagination." This considers the tonsils as the vaccine laboratories of nature. It regards the crypts as so many culture tubes in which organisms are cultivated, and toxins generated and absorbed in just sufficient doses to produce the necessary anti-bodies to immunize the individual against the active invasion of the organisms themselves. A study of the comparative incidence of the acute infection of childhood in those who have had their tonsils removed and those who have not might throw some light on the subject. A very large number of cases would be necessary to avoid the element of chance.

6. *The Physico-Mechanical Function.*—This is not a theory but a demonstrable fact. It has been well known to teachers of singing and elocution, to voice trainers and to vocal artists for many years. Singularly enough, but little is known of this important function by the medical profession. There is only passing mention, if any notice is taken of it at all, in any of the text-books that have come under my observation. But little until very recently has been written upon it. It is, I believe, the forerunner of a more conservative treatment of the tonsil by the profession generally than now obtains. It will help to stop the indiscriminate sacrifice of the tonsil.

There are seventy-four muscles and thirteen nerves capable of influencing various points of the vocal apparatus. The vocal tract of an accomplished singer is capable of 16,000 adjustments and re-adjustments.

To insure the perfect operation of a mechanism so delicate, so intricate, every muscle, every ligament must be absolutely intact,—in the highest state of development.

The faucial tonsil is a fulcrum which is movable and compressible for the muscles of the pharynx. The tonsil is a muscular compensator because of its ability to change its shape and its pressure. It fills a cavity which, if unoccupied, cripples compensation.

Permit me to quote now a few of the best known men on this subject:

Von-Chiari: "The tonsils act as a prop to the soft palate * * * if they are removed the faucial arches lose their support, the whole back part of the roof of the mouth will sag down, affecting the voice permanently."

Lermoyez: "The faucial tonsil is an organ that must be respected."

Mme. Schumann-Heink states: "In some cases the voice becomes acid, uncertain, weak or rough, or entirely ruined after removal of the tonsil."

Bispham says: "There is always trouble after operations on the throat of singers; after the removal of tonsils there is always something gone which contributed to the good singing tone."

Kenyon and Kradwell, of Chicago, have recently made an exhaustive study of this function. They report, in part, as follows: "In the systematic examination of tonsillectomized throats one has forced upon him that, in most instances, something has resulted to the throat besides the mere removal of a tonsillar mass. Not in all, but in a very large proportion, there is presented quite an altered anatomical picture. The relative regularity of this picture of deformity is of itself alone a most striking fact and sufficient of itself to indicate the probable existence of a definite function of the tonsil with reference to the lower palatal muscles. * * * It seems conservative to say that following tonsillectomy, the palato-glossus and palato-pharyngeus are never wholly normal in their action. A striking fact concerning the appearance of the pillars in non-tonsillectomized throats is a certain ease and freedom of movement, due to the provision of an abundant amount of tissue allowing for full, easy range of action. The picture in tonsillectomized throats is altered for one of deficiency of tissue and tenseness of action. * * *

"The all-important question of danger of tonsillectomy to the voice, whether the speaking or singing voice, necessarily is closely involved in the matter under discussion. The subject of the voice in this connection is, however, far from simple, and too important to be casually dealt with. It goes without saying that one who undertakes an operation, necessarily so hazardous to the action of the depressor palatal muscles, as indicated by the findings just reported, is playing with fire so far as the voice, and especially the singing voice, is concerned."

Their summary and conclusions are as follows:

1. The tonsil serves as an absolutely necessary factor in providing a channel for the action of the palato-glossus muscle.

2. The function of the tonsil with reference to the palato-pharyngeus is to afford support and protection,—of great importance to its normality of action.

3. Tonsillectomy serves to destroy not merely a possible lymphatic function of the tonsil, but also to disturb or destroy an important physico-mechanical function, one which is capable of being clearly understood.

4. More or less impairment of action of the depressor must occur in practically all cases of tonsillectomy, regardless of the delicacy of the operative technic, or the particular form of operative procedure adopted; but delicacy of procedure and method of operation are not, of course, to be considered unimportant.

5. To consider the present operation of tonsillectomy as a final settlement of the operative approach to the tonsil is premature and erroneous. The whole tonsil question requires further anatomical, pathological and operative study, in order, if possible, to readjust the operative approach to the organ to the new knowledge which is accumulating.

Combining, then, the three known functions of the tonsil, it is seen that it subserves a threefold function possessed by no other organ in the body. For this reason it should receive the greatest consideration. For this reason due study should be given each case upon its own merits, especially in childhood, before a definite treatment, especially its removal, is undertaken. For this reason experienced school inspectors should be employed. For this reason it should be remembered that a tonsil becomes enlarged by systemic disturbance as well as local irritation or inflammation and that under appropriate medical treatment they will return to their original condition.

This is a synopsis of a larger paper consisting of abstracts, quotations and references with which I did not dare tire you.

I hope I have given enough to convince you that the tonsil question is by no means settled, rather that it is yet in the making, and that until we should have acquired definite knowledge, we should study each case of enlargement of the tonsil upon its own merits, treating it accordingly, rather than upon some preconceived impression.

114 *N. Fifth Street.*

Proceedings of Societies, Etc.

Roanoke Academy of Medicine.

June 4, 1917—Regular meeting, Dr. Brown wielded the gavel.

Dr. F. A. Farmer was unanimously elected a fellow. Dr. Farmer has been for the past few months located at Cave Spring, near Roanoke.

Dr. Conduff presented a most interesting clinical case, apparently a nodular multiple chondroma or exostoses. Discussed by Dr. Trout and numerous questions asked.

Dr. Trout also described MacArthur's duodenoscope.

Dr. Strickland presented a paper on "The Doctor as a Business Man," in which he emphasized the importance of divorcing business from practice and attributed lack of financial success largely to the fact that we are unconscious of our ignorance in matters outside our legitimate field of labors. Discussed by Drs. S. J. Gill, H. E. Jones, Huff, Brady and Conduff.

Dr. Hurt reported a case of complicated gastric trouble in a four-months'-old infant, followed by enlarged liver and spleen, and probable leucemia.

June 18, 1917—Dr. Brown in chair.

A resolution advocating the abrogation of patent on salvarsan was passed without dissent.

Dr. Lawson made report of case of syphilis of the lung. Discussed by Drs. Lloyd, E. E. Watson and H. E. Jones.

Dr. Brady exhibited a clinical case, one of multiple osteochondroma, patient and X-ray plates being shown.

Dr. Lloyd read a paper on "Prognosis of Tuberculosis." The discussion was made by Drs. E. E. Watson, Preston and Brady.

Reports of the recent A. M. A. meeting in New York were made by 1—*Dr. Preston*, whose remarks were upon the President's address, the section on Alcohol and Prohibition, and clinical work in Rockefeller Institute, especially on Pneumonia—serum treatments.

2—*Dr. H. B. Stone* described mastoid operation under "Twilight Sleep."

3—Dr. Garrett described tests in equilibruim required of would-be aviators.

A full attendance of members and some visitors present.

This meeting completes the year's session, there being no further meeting scheduled until October 1st. This has been an eminently satisfactory session of our Society. The attendance has been good, the papers of real value, the scientific work earnest and measuring well up with that of any similar organization; the discussions have been well sustained and the entire session marked by good humor, a hearty good fellowship, a tone of respect and esteem for the opinions of each other, and a most admirable spirit of co-operation.

The officers have been faithful and prompt in discharge of their duties, and wish to express their thanks for the cordial support they have had from the entire membership. They also thank the *Semi-Monthly* for its publication of these reports.

E. P. Tompkins, M. D.,
Secretary.

Analyses, Selections, Etc.

Good Food and Food-Poisoning.

Food must be adjusted to the climate and habit of people, says S. R. Klein, Norwich, Conn. In a warm climate animal food should be diminished and a more liberal allowance of vegetable food taken. The latter supplies the necessary constituents in a less stimulating form and one more suited to a climate in which congestion of the animal viscera is especially apt to occur. Carbohydrates furnish energy with a moderate production of internal heat; hence, they are very valuable in the form of maize, rice, lentils, as they contain less nitrogen. Sugar is excellent when energy is to be liberated rapidly with the least tax upon the digestive system. During the present European war, cavalry horses recovered health and energy when their coarse grass or hay was sprinkled with molasses or sweetened water. In grain eating populations, starchy constituents bulk too largely and require to be supplemented by a little animal food rich in oil, or seeds rich in albuminates or oil, such as ground nuts, or by adding other pulses less rich in oil and supplying the requisite amount of oil separately.

Tea, as a stomachic and as a safe way of introducing fluid into the system, would seem to be beneficial and hygienic. It was introduced by the Chinese owing to the calamities arising from drinking unboiled water. The Chinese do not drink tea during their meals, but after they have finished. The pernicious system of drinking tea during a meal is one peculiar to British people, and the habit is fraught with many dyspeptic troubles. The best China tea, prepared by pouring boiling water over leaves and immediately pouring the water off the leaves, is a wholesome fluid calculated to aid digestion, especially when taken after the meal is finished. Tea taken with animal food, as eggs, fish or flesh, is a certain means of producing dyspepsia, for when the tea is "drawn" for a long time, and when the tea used is of inferior quality, the tannic acid of the decoction uniting with the albumin of the animal tissues produces a leathery compound which no gastric juice can penetrate and digest.

Coffee, two or three mouthfuls after meal, is an aid to digestion; taken in quantity—breakfast cupfuls—it is an impediment to digestion; and diluted with half milk and taken with a meal of eggs, fish or meat is still more so.

When smoked in moderation soon after meals, the deleterious effects of tobacco are infinitesimal. When indulged in to excess, six to eight cigars or fifteen to twenty cigarettes, or one ounce of pipe tobacco, it is an injurious cardiac depressant.

The most dangerous tinned foods are those containing much moisture, i. e., milk, salmon, lobster and mixtures of meat and vegetables. The more acid foods, such as fruit, jams, and vegetables, are more liable to take up metals from the tins. The simpler the preparation the better it stands the effects of climate and heat. Apparent bulging may be due to the tins being dented. A good tin of meat has usually slightly concave ends owing to a partial vacuum forming during the process of sterilization. Resoldering should be looked for. As a rule, two holes are made in one end of the tin to permit steam to escape. Resoldering, or the presence of a third or more soldered holes points to puncture to allow gas to escape. Dented tins, if otherwise fit, should be issued early, as they are apt to rust and perforate on keeping. On opening certain tins, i. e., of marmalade, rhubarb, tomato soup, etc., a black-

ened appearance may be noticed. This is due to the action of the vegetable acids on the tin plating and if slight, and there is no evidence of fermentation as evidenced by minute gas bubbles, may be neglected. Decomposition may result from incomplete sterilization, or incomplete sealing of the tin. Bulged tins may be tested by puncturing them under water to test for the escape of gas. In some cases a little gas will escape from tins containing perfectly sound meat, owing to incomplete exhaustion during the process of sterilization, but which, being sterile, is of no real consequence and amounts to, as a rule, only about 1 c. c. or so. Professor Eber's test for the decomposition of meat, consisting of one part sulphuric ether, one part pure HCl and three parts ethylic alcohol, is placed in a test tube or other suitable vessel. The material to be examined is smeared on the end of a glass rod, which is dipped below the surface of the reagent but is not allowed to touch the side. If ammonia be present, a cloudiness appears or fumes may be given off.—(*Journal Record of Medicine*, April, 1917).

Hypodermoclysis in the Diarrhea of Children.

It is scarcely more than twenty years since hypodermoclysis became generally known to the profession, and we think it is a fair statement that it is not so frequently resorted to for the relief of any type of case today as it was ten years after its introduction. This is due, in part, to the fact that its novelty has worn off, to the fact that certain contraindications, like dropsy or pulmonary edema, forbid its use, to the discomfort which it causes many patients, and, last of all, to the introduction of the Murphy drip, which, however uncomfortable it may be, nevertheless usually causes less annoyance than the injection of a considerable quantity of salt solution under the skin.

In infancy both hypodermoclysis and the Murphy drip are difficult to employ, because of the restlessness of the child, and the struggle with the carrying out of either of these methods by the physician and nurse naturally brings forward the question as to exactly how advantageous its employment is. Whatever clinical observation may have shown in the past, nevertheless careful, scientific investigation, concerning the rapidity of the absorption of liquid, the absorption of the salts employed and the speed of their elimination, was needed to reach definite conclusions.

These conclusions have now been, at least in part, obtained by an investigation carried out by Holt, Courtney, and Fales concerning the excretion of the sodium chloride and the water when injected subcutaneously, the investigation having been carried out in the laboratory of the Babies' Hospital, of New York, and the Rockefeller Institute. Studying cases of diarrhea in infancy, they showed that there was a great loss of salts, especially the more soluble ones, and, noting a very definite gain in weight after the employment of hypodermoclysis, the question which presented itself was as to whether this was solely due to the increased liquid provided, or to the retention of the salt. The method of injection was to use freshly distilled water, sterilized in the flask used for hypodermoclysis, this flask being fitted with a two-hole rubber stopper carrying short pieces of glass tubing, one of which was connected by a rubber tubing with an ordinary hypodermic needle. The flask was then heated to body temperature, hung at a suitable height above the patient, kept warm by being wrapped in a piece of cloth, and inverted so as to permit the flow. The needle was usually inserted in the back between the scapulae, and held in place by strips of plaster. The salt solution used consisted at first of sodium chloride, 0.86; potassium chloride, 0.02; calcium chloride, 0.64 (including water of crystallization); and distilled water, 100 c.c. About 200 c.c. of the solution was generally employed, and one to three hours was required for its absorption, according to the degree to which the infant had been deprived of fluid by purgation. The rate of absorption varied greatly in different patients. In some it took place in four hours, in others not for twelve hours. Naturally the first injections were absorbed more promptly than the later ones. A slight reaction of one or two degrees of temperature often occurred.

After a certain amount of investigation the salt solution we have just named was given up and the ordinary salt solution, by which we presume is meant Ringer's solution as modified by Locke, was resorted to.

Holt and his colaborers found that protracted vomiting robbed the body of both fluid and salts, as did diarrhea, and that a considerable portion of the salt is usually retained for two

or three days, sometimes for a longer period, the retention of the water following the retention of the salt. In normal children the greater portion of the water is apparently excreted in the course of the first twenty-four hours, and the salt often escapes in great part in the first six hours, which emphasizes the fact already known, namely, that the body speedily eliminates salts for which it has no use, provided that the kidneys are not so impaired in function as to make this impossible, when many salts, notably potassium salts, otherwise innocuous, become hurtful.—(*Editorial, Therapeutic Gazette*, June, 1915.)

Acetonuria and Inanition in Children.

The readers of the *Gazette* will remember that from time to time we have considered rather fully the subject of acetonuria and acidosis, and that about a year ago, we discussed the work of Howland and others in connection with the acidosis which develops in the summer diarrheas of infancy. It has become increasingly evident, and we think this has been made clear by previous summarizations of this subject, that there is a difference between acidosis, to use that term in a strictly accurate manner, and acetonuria, which represents a state in which there is an excessive formation of beta-hydroxybutyric acid, diacetic acid, and, finally, acetone itself. These bodies seem to be due to faulty metabolism of fats, whereas acidosis covers conditions arising from other causes possibly not so well understood and already discussed in these pages.

It has long been known that starvation induces acetonuria because the body begins to utilize its own tissues in order to obtain energy and heat after the deprivation of food, and a similar condition, of course, exists in the presence of the vomiting and purging of infantile diarrhea. For this reason, it has been considered by Veeder and Johnston that it would be advantageous for us to gain some idea of the amount of the acetone bodies and acidosis in children resulting from an inanition not due to disease, but to the deprivation of food. In five instances the period of starvation lasted twenty-four hours, in thirteen other cases it lasted forty-eight hours. A rapid increase in acetone elimination takes place in the second twenty-four hours, as might be expected. None of the children as a result of these brief periods of inanition showed any of the clinical evidences of acetonuria. There was no nausea, vomiting, flushing of the face, temperature variation, or labored breathing. Veeder and Johnston think that the absence of these symptoms in these experimental children indicates that the formation of the acetone bodies can hardly be the fundamental cause of the symptoms so often regarded as due to acidosis. This view is substantiated by the fact that clinical observers have long thought that the symptoms of the summer diarrhea of infancy were not due so much to the presence of ketone bodies, formed as a result of vomiting and purging, as they have been due to the absorption from the alimentary canal of certain toxic substances primarily contained in the food, or developed in the food while in the alimentary canal, either because of putrefactive change or because of perverted digestive function.

It would seem evident that some of the symptoms manifested by children suffering from summer complaint may be due not only to poisons which they make from their tissues, but that the problem is really more complex and that two or more sources of intoxication are active factors to be considered in each case.

For this reason, the use of carbohydrates and alkalies is not all-sufficient in the treatment of these states. Every clinician knows that the fats and proteins must also be eliminated from the diet.—(*Ibid.*)

The Treatment of Syphilis.

The introduction of salvarsan into medicine was an epoch-making advance in therapeutics. It was the most scientifically constructed medicament known to man, and the manner of its development established the basis for the new science of chemotherapy. Its superior value in syphilis and in certain other diseases, such as yaws, relapsing fever, tertain malaria, etc., are all well attested. The elaboration of salvarsan (this trade name is meant to refer to dioxydiaminoarsenobenzol, no matter by whom prepared) is most complicated and difficult; it must pass through many intermediate stages. The purity of these intermediate products will of necessity influence the purity of the final compound. Salvarsan cannot be purified by repeated crystallization. It is quite possible, therefore, that traces of various impurities may be present in the final product: as a matter of

fact we know, from ultimate analysis, that such is the case, and furthermore, that in the present state of our knowledge this cannot be entirely avoided. Inasmuch as absolute chemical purity is not obtained we cannot expect absolute constancy in biological effects. Depending upon the character and quantity of impurities, there will be variations in toxicity, and to a lesser degree in therapeutic effect.

It is important to recognize that the toxicity of salvarsan varies, for such knowledge is essential to safe clinical guidance. In the light of this knowledge it is not justifiable to give large daily administrations of salvarsan or neosalvarsan for a number of days, as a few experienced clinicians have advocated. With products of low toxicity this might be done without danger, but without possession of the laboratory records of the product employed, a distinct hazard is encountered by such herioc methods of treatment.

No one is in a position at the present day to set down a prescribed formula as to the most approved and perfect method of treating syphilis. Some years ago, before the advent of the Wassermann test, we laid down, in the plentitude of our ignorance, a routine treatment of syphilis. So much depends, nowadays, upon the stage in which the patient presents himself for treatment.

In the primary stage, abortive cures can often be achieved. The later the patient comes under vigorous treatment the greater is the opportunity for wide-spread diffusion of the spirochætæ. These may find their way into the tissues and may then become relatively inaccessible to therapeutic agents. No two cases of syphilis are identical, by reason of the fact that the quantitative infection, the defensive power of the body cells and fluids, and the topographic distribution of the parasites will vary. In one patient the disease may induce severe and fatal symptoms, while in another the parasites may after a time take on almost a saprophytic existence, and the patient may live to old age in average health. Syphilis is veritably a disease of paradoxes.

There are many cases in which it is impossible to secure a negative Wassermann by the most vigorous therapeutic measures. This may be due to the anatomical inaccessibility of the spirochætæ or perhaps to the fact that they have gone into a resistant resting stage. I believe that where cures cannot be achieved the disease, if not advanced, may be arrested and robbed of its terrors by adequate treatment. The question may pertinently be asked, What constitutes adequate treatment?

In an early case the ideal treatment would be weekly intravenous injections of salvarsan for ten or twelve weeks. If the injections are borne well and there is no reaction, the early treatments might be given at intervals of five days. If the patient loses vigor or develops headaches or digestive disturbances, the injections should be interrupted, and after a brief rest mercury should be used.

The insoluble mercurial compounds are efficient, but the dose must be guarded and the kidneys watched, as all insoluble mercurial injections cause an accumulation of the drug in the muscles. The safest method of using large doses of mercury is by inunction. It is rather remarkable that the medical profession has been using inunctions for almost 400 years and has repeatedly attested the merits of this method, but has slighted it because the method was dirty. Such is the force of medical tradition that we have adhered to a dirty mercurial instead of seeking a clean one. Calomel rubs into the skin more easily than mercurial ointment and is absolutely cleanly. We have demonstrated its absorption by laboratory studies. Thirty or forty grains in 10 grains of lanolin and thirty grains of lard should be rubbed in daily.

In conclusion we emphasize the statement that the patient must be treated as well as the disease. The Wassermann reaction will sometimes improve under freedom from specific treatment and resort to general invigorating measures.—(*Ibid.*)

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

The Psychoanalytic Method. By DR. OSCAR PFISTER. Translated by C. R. Payne. Published by Moffat, Yard & Co. 1917. Price, $4.

Basing himself upon this fundamental fact brought out by Freud, namely, that certain functional nervous and psychic disorders are often but substitutes for unsuitable tendencies

and that the conditions of these disorders are established in the years when the individual is the object of education, the author undertook the task of presenting the subject of psychoanalysis for the purposes of education. The pedagogue familiar with the child's disposition is able to ascertain the time when that disposition threatens to attain an undesirable expression. By means of properly-conducted psychoanalysis he will be able to avert unfavorable developments. Prophylaxy, therefore, can be practiced by means of such an analysis. The educator must, consequently, be a good psychoanalyst. Pfister wrote this book chiefly for the educators, but the physician as well will immensely profit by its perusal, as it is written in the most illuminating manner.

In the first part, the theory of psychoanalysis is considered and, of course, considerable space is devoted to the conception of *repression.* In the second part, the methods of psychoanalysis are discussed in detail. Numerous examples are cited and the manner of interrogating is described. Finally, the results and practical benefits from psychoanalysis are presented. The entire work is written in a masterly manner. Its translation is excellent.

ALFRED GORDON, *M. D.*

Editorial.

Medical Corps Needs Doctors for the Army.

Surg. Gen. Gorgas, of the Army, authorizes the statement that the Medical Corps must have 17,000 more doctors for the Army, and it needs most of them *now.* It is hoped that there will be a sufficiently large number of volunteers to keep from resorting to the draft system in the medical profession. The aim will be to put each man where he is most needed and where his specialty will count most. The matter of earliest importance, however, will be the examination of recruits, and the care of their health through treatment and by sanitation. For this reason and because we wish to aid our allies as well as give the best service to our own soldiers and sailors, the United States needs more medical officers than France or Germnay. Applicants must be between 22 and 55 years of age and graduates of reputable medical schools. Communicate with the chairman of the Board most convenient to you, even though this may mean a board in another state. Chairman of the Virginia boards are the Surgeon at Ft. Monroe; Lt. Burnley Lankford, M. R. C., Norfolk; Maj. Stuart McGuire, M. R. C., Richmond; Lt. H. J. Hagan, M. R. C., Roanoke. Chairman of other convenient boards are Maj. W. D. Webb, M. C., Washington, D. C.; Maj. A. B. Hooe, M. R. C., Washington, D. C., and Maj. John W. Long, M. R. C., Greensboro, N. C.

Never has there been a greater demand for sacrifice, but it is the sacrifice for country. The country is in the war to win, and no class is more needed at the present time than doctors.

Names of Doctors on Exemption Boards in Virginia.

The following is a list of the doctors from the counties and cities of the State, who are members of the exemption boards and have to pass on the physical exemptions from military service required under the selective draft act: Drs. J. C. Ayres, Accomac; W. D. Macon, Charlottesville; R. E. Sweeney, Alexandria; W. M. Revercomb, Clifton Forge; P. T. Southall, Amelia; G. T. Harris, Madison Heights; J. B. Abbitt, Appomattox; J. B. Catlett, Staunton; L. D. Pole, Hot Springs; J. A. Rucker, Bedford; J. W. Walker, Bland; P. K. Graybill, Fincastle; E. R. Turnbull, Lawrenceville; J. W. Waldron, Grundy; P. E. Tucker, Buckingham; Henry P. Brown, Lynchburg, R. F. D., and E. Barksdale, Lynchburg; John G. Broaddus, Bowling Green; Ashton Harwood, Binns Hall; R. A. Moore, Phenix; J. F. Ragland, Centralia; J. Edward Harris, Berryville; B. R. Caldwell, New Castle; Otis Marshall, Culpeper; E. B. Nuckolls, Cumberland; R. A. Martin, Petersburg; J. W. Hope, Hampton; J. M. Gouldin, Tappahannock; F. M. Brooks, Swetnam, Stephen Harnsberger, Catlett; E. L. Lawrence, Floyd; J. J. Nelson, Jr., Columbia; W. T. Chitwood, Rocky Mount; B. B. Dutton, Winchester; W. D. Woolwine, Pearisburg; H. A. Tabb, Gloucester; L. K. Leake, East Leake; Jesse Ewell, Ruckersville; G. B. Wood, Emporia; H. B. Melvin, Houston; A. C. Ray, Ashland; B. H. Martin, Rio Vista; A. L. Wellford, A. G. Brown, E. T. Rucker, J. H. Hinchman and

Cullen Pitt, Richmond; J. M. Shackelford, Martinsville; C. B. Fox, Monterey; Rea Parker, Smithfield; H. U. Stephenson, Toano; V. O. Caruthers, Ferrell; R. D. Bates, Newtown; W. E. Croxton, Skyron; W. J. Newbill, Irvington; P. D. Pence, St. Charles; John A. Gibson, Leesburg; H. W. Porter, Louisa; E. L. Kendig, Kenbridge; J. N. Clore, Madison; C. C. White, Mathews; H. L. Burwell, Chase City; H. F. Hoskins, Saluda; W. A. Wilson, Radford; C. J. Riddick, Suffolk; Fred. M. Horsley, Lovingston; J. R. Parker, Providence Forge; L. L. Sawyer, Berkley, R. F. D.; Sherwood Dix, Port Norfolk: T. Edwin Baird, Chas. W. Doughtie and Benj. M. Baker, Norfolk; Vernon A. Brooks, Portsmouth; C. L. Nottingham, Cape Charles; R. E. Booker, Lottsburg; Arthur Hooks, Blackstone; Lewis Holladay, Orange; Virgil Hammer, Luray; R. S. Martin, Stuart; C. D. Bennett, Chatham; E. S. Lester, Witt; E. P. Tompkins, Fine Creek Mills; W. E. Anderson, Farmville; W. B. Daniel, Disputanta; R. E. Whitehead, Norfolk, R. F. D.; J. Marye Lewis, Manassas; E. L. Sutherland, Dublin; J. G. Brown, Woodville; H. L. Segar, Warsaw; R. H. Garthright, Vinton; H. E. Jones and Leigh Buckner, Roanoke; C. H. Davidson, Lexington; J. E. Lincoln, Lacey Springs; C. R. Fugate, Clinchport; B. R. White, Strasburg; S. W. Dickinson, Marion; E. F. Reese, Courtland; F. C. Pratt, Fredericksburg; E. M. Sneed, Stafford; C. W. Astrop, Surry; Joel Crawford, Yale; P. D. Johnston, Tazewell; W. S. Roy, Front Royal; Louis Loeb, Newport News; George E. Wiley, Bristol; G. B. Harrison, Colonial Beach; W. S. Keister, Norton; P. B. Green, Wytheville, and E. Peter White, Odd.

The Southwestern Virginia Medical Society,

At its semi-annual meeting in Pulaski, in June, elected the following officers: President, Dr. W. R. Cushing, Dublin; vice-presidents, Drs. Zeb V. Sherrill, Marion, and J. W. Preston, Roanoke; secretary-treasurer, Dr. A. B. Greiner, Rural Retreat (re-elected); executive committee, Drs. S. S. Gale and E. T. Brady, Roanoke, and F. H. Smith, Abingdon. The next meeting is to be held in December, the place to be selected by the executive committee.

The Association of Surgeons of the Southern Railway,

At its annual meeting in Jacksonville, Fla., recently, decided to hold its next meeting in New Orleans, and elected the following officers: President, Dr. A. R. Shands, Washington, D. C.; vice-presidents, Drs. J. A. Goodwin, Jasper, Ala.; D. V. McClary, Dale, Ind.; E. C. Doyle, Seneca, S. C.; Oliver G. Falls, King's Mountain, N. C.; secretary-treasurer, Dr. William A. Applegate, Washington, D. C.

The four prizes for papers were awarded to Drs. H. R. Black, Spartanburg, S. C.; D. V. McClary, Dale, Ind.; A. R. Shands, Washington, D. C., and G. P. Neel, Greenwood, S. C.

Free Vaccination.

An official statement to medical officers of the U. S. Public Health Service and others concerned, reads: "Hereafter as a means of preventing the interstate spread of disease, either by military forces or the civil population, any person in the United States may receive, without cost, upon applying in person to those places designated by the Surgeon General of the United States Public Health Service, vaccination against any one or all of the following named diseases: Smallpox, typhoid fever, para-typhoid fever.

"Medical officers and others charged with the duty of performing such vaccinations should make requisition for the materials necessary therefor, and shall render a monthly report showing the names of those so vaccinated, their addresses, and the date of said vaccination. Upon the request of any person so vaccinated, certificate of vaccination may be issued."

In Virginia, the points at which vaccination may be obtained are Alexandria, Ft. Monroe, Irvington, Newport News, Norfolk and Richmond.

Married—

Dr. Robert Edward Timberlake and Miss Lillian Watkins, both of this city, July 3.

Dr. Ralph W. Stoneburner, Toms Brook, Va., and Miss Mary Keister, formerly of Wytheville, Va., in Edinburg, Va., June 27.

Dr. William Anthony Peters, Elizabeth City, N. C., and Miss Susie Jeanette Powell, Emporia, Va., June 27.

Dr. Hugh Johnson Hagan, formerly of Roanoke, Va., but now a lieutenant in the U. S. Medical Reserve Corps and stationed at Old

Point, Va., and Miss Barbara Fowle Campbell, Charlestown, W. Va., July 14.

D. Charles R. Woolwine, Davy, W. Va., and Mrs. Mary Eakin Osterbind, recently of Richmond, Va., in Blacksburg, Va., June 26.

Association of Surgeons of the C. & O. Railway.

Owing to the unsettled condition of the country due to the war and also to the fact that many members are being called to military service, the regular annual meeting of this Association, which was to have been held at Ft. Monroe, in August, 1917, has been postponed one year, and the secretary-treasurer has been instructed to make no collection of dues from the surgeons for the year 1917.

Health Survey in Fairfax County.

The State Board of Health is conducting a health survey of Fairfax county that will cover a period of twelve months. This survey will include medical inspection of the school children and improvement of sanitary conditions for the control of typhoid fever and other filth borne diseases. The county will be taken by communities and a house-to-house visit by one of the district directors will be made and methods outlined to make the latrines comply with sanitary regulation in all instances where necessary. Microscopic examinations will be made for hookworm infection throughout the county.

This health survey was made possible by the liberal donation of $1,000.00 by the Hon. R. Walton Moore, of Fairfax. It is supplemented by $800.00 from the county authorities, $1,-800.00 from the International Board of Health and $1,800.00 from the State Board of Health.

Dr. E. L. Flanagan will be in charge of the campaign for the State Board of Health.

Dr. R. D. Glasser,

Norfolk, Va., visited this city in June to attend the marriage of a friend.

Amount Asked for Red Cross Over-Subscribed.

In response to the call for $100,000,000 for the American Red Cross work, contributions amounting to over $115,000,000 were made. This fund will be devoted primarily to the needs of American soldiers and sailors, and, secondarily, to relief work among the allies. It is expected that permission would be given to establish an American Red Cross Dispensary at each important seaport city in the allied countries. Some of the first of the relief work to be taken up is in Northern France and Roumania and a study will also be undertaken to ascertain the best means for aiding the Russian people.

From February 1 to July 1, this year, the number of Red Cross chapters in this country increased from 272 to 1,534. There are only 17 chapters in Virginia.

New Interne at Memorial Hospital.

Wallace Spiegel, Norfolk, Va., a member of next year's senior class at the Medical College of Virginia, has received appointment as an interne at Memorial Hospital, this city, and entered upon his duties the first of this month.

Dr. James Ligon Kent,

Pulaski, Va., who has been dividing his time between his professional work and farm for the past few years, has closed his office and decided to devote his entire energies to his farm.

The Association for the Study of Internal Secretions

Held its first annual meeting in New York City, last month, and elected Dr. Charles E. deM. Sajous, Philadelphia, president, and Dr. Henry R. Harrower, Glendale, Calif., secretary.

Dr. Jas. Spencer Burger,

City Point, Va., recently visited his mother, in Farmville, Va.

Dr. William J. Olds,

A well-known eye, ear and nose specialist of Northern Virginia, is among the doctors of this State who have joined the army.

Small Number Before State Board of Medical Examiners.

The smallest number in many years appeared before the State Board of Medical Examiners in this city in June, to secure licenses to practice in Virginia. There were only sixty-four in the class this year, sixty being white men, three colored, and one a white woman.

Portsmouth Has City Nurse.

The department of health of Portsmouth, Va., arranged in June for the employment of a trained nurse to look after the city's poor. She will receive a salary of $75 per month.

Dr. Samuel Lile,

Lynchburg, Va., and family, left early in July for an automobile trip to Richmond and Washington.

Dr. M. C. Sycle,

Who was nominated by the mayor for appointment by Governor Stuart as a member of one of the exemption boards of Richmond, has notified the mayor that, owing to professional business, he will be unable to perform the service.

Dr. Alexander G. Brown has been appointed in his stead.

Dr. Russell L. Cecil,

Formerly of this city but more recently of New York City, is a surgeon in the regular army with the rank of first lieutenant, and is connected with a regiment of engineers.

Public Health Course for Nurses.

In view of the need in Virginia for public health nurses, the State Board of Health will open in Richmond, on July 15, a special summer course in the fundamentals of graduate nurse instructions. There will be no tuition for graduate nurses, who may register for the course by applying to the supervisor of public health nursing, State Board of Health, Richmond. The course will continue until September 1.

Dr. James L. Hamner,

Of Dinwiddie County, Va., who graduated from the Medical College of Virginia in 1916 and was appointed interne at Grace Hospital, this city, has been ordered to Governor's Island, N. Y., for medical service.

Drs. Mayo to Go to France.

Drs. William and Charles Mayo, the world-famous surgeons of Rochester, Minn., have announced that they will shortly leave for France to be on the French battle front. It is stated that part of the $1,500,000 Mayo Foundation left to the University of Minnesota, will be used for medical research to combat disease which may be contracted by soldiers at the front.

The American Society of Tropical Medicine,

Which met in New York City, last month, elected Dr. C. C. Bass, of New Orleans, La., president, and reelected Dr. John M. Swan, Rochester, N. Y., secretary-treasurer.

Dr. W. F. Porter,

Formerly of Jarrolds Valley, W. Va., is now at Highcoal, W. Va.

Dr. Tom A. Williams,

Washington, D. C., has sailed for Europe to be a neurologist in the French service, and does not expect to return until October, 1918. During his absence, communications and patients should be referred to Dr. E. G. Mitchell, 15 Seventh Street, Northeast, Washington, D. C.

Dr. and Mrs. Thomas P. Cheesborough,

Asheville, N. C., accompanied by their two sons, enjoyed a motor trip in June through the Carolinas and Virginia, going as far as Washington, D. C. They stopped for a few days in this city to visit relatives.

Picture of Dr. Taylor Presented Medical College of Virginia.

A portrait of Dr. William H. Taylor, of Richmond, who died this spring, has been presented to the Medical College of Virginia by members of his family, and it has been hung in a conspicuous place in the lobby of the college. Dr. Taylor was for sixty-one years connected with the college as a student and later professor, until he was made an emeritus professor.

Lt. Walter M. Brunet,

Lynchburg, Va., who was in charge of the medical part of naval recruiting in that city from the establishment of the office in Lynchburg, was about the middle of June transferred to Roanoke, Va., to take up a similar work in that city.

Dr. William J. Newbill,

Irvington, Va., had the misfortune to lose his office in a fire which occurred in that place on June 18.

Dr. Brodie C. Nalle,

Charlotte, N. C., accompanied by his son, visited relatives in Culpeper, Va., the latter part of June.

Dr. and Mrs. Charles Robins,

Richmond, were visitors in Bon Air, in June.

Medical Census of New York.

The *Medical Record* states that as a result of a medical census taken recently by the Adjutant-General in New York State, it was determined that there were in the State 13,695 physicians, including 501 women, and that 5,735 of the physicians are available for military duty.

Dr. Ferdinand M. Perrow

Has returned to his home in Lynchburg, Va., after a short visit to Philadelphia.

Dr. and Mrs. J. E. Warinner,

Returned to their home near Richmond, early in July, after a visit to friends on the Eastern Shore of Virginia.

Dr. I. Carrington Harrison,

Danville, Va., recently visited his brother in New York City.

Dr. J. Fred Van Pelt,

Onancock, Va., who graduated from the Medical College of Virginia in 1916, has been accepted for service in the medical reserve corps and is awaiting orders.

Dr. B. D. Downey,

Portsmouth, Va., was nominated for Governor, at the State convention of the Socialist labor party, held the first of this month.

Dr. and Mrs. Herbert Mann,

Of this city, with some friends, motored to Yorktown early this month, stopping over at the Chamberlin Hotel, Old Point, for a while.

Obituary Record.

Dr. Livius Lankford,

One of the most prominent gynecologists of Norfolk, Va., and well known throughout the state, dropped dead in the Blues' Armory, of that place, June 18, while drilling with a company of home guards, of which, in spite of his age, he was an enthusiastic member. Dr. Lankford was a native of Southampton County, Virginia, and 61 years of age. After an academic education at Richmond College, he entered the University of the City of New York, from which he graduated in 1877, later going to Germany to study. After practising in his native county, he moved to Norfolk, about thirty years ago. He was prominently identified with the Medical Society of Virginia, having been at various times a member of its executive committee, chairman of the necrological committee and first vice-president. He was also for two years a member of the State Board of Medical Examiners and he was also a delegate to the ninth International Medical Congress. Funeral services were held at Freemason Street Baptist Church, in which he had been a deacon for a number of years, and the interment was made in Suffolk, Va.

Dr. Lankford was twice married, there being four sons by the first marriage, three of whom are doctors, and a son and daughter by the second marriage. These and his widow survive him. Dr. Lankford was a man of most genial temperament, always optimistic and generally beloved.

Dr. William B. Ezell,

For many years one of the most prominent physicians of Brunswick County, Va., died at his home at Ezell, June 26, at the age of 80 years. He is survived by his second wife, a son, and a sister. Dr. Ezell received his medical diploma from the Atlanta Medical College in 1861, later taking a post-graduate course at Jefferson Medical College, Philadelphia, and the University of Virginia. In March, 1862, during the war between the states, he enlisted as a private in Neblett's heavy artillery, which was stationed on the Richmond and Petersburg lines during the war, but was soon promoted. He continued in the service until the close of the war, being taken a prisoner near the close of war and being so held until July, 1865. On his return home, he resumed his practice, which he continued until a few years ago.

No community can be really successful without safe waste disposal.

Swimming is a healthful exercise.

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PRINCIPLES AND MORALE IN THE MANAGEMENT OF DIABETES.*

By JAS. H. SMITH, M. D., Richmond, Va.

Since the principles of treating diabetes have recently undergone considerable modification, and since the first necessity in applying them lies in securing the co-operation of the patient, I have selected these two phases of the subject for discussion.

Diabetes assumes a peculiar interest just at this time when the whole of Europe is wrestling with a similar problem. Food values are, today, the deep concern of warring nations, and individual allowances are the subject of careful calculation. As the problem of belligerents is to live on what can be had, so the problem of diabetics is to live on what can be metabolized. The success of the former depends upon the strength of the government and the patriotism of the people. The success of the latter depends upon the efficiency of the physician and the intelligent self-control of the patient.

Principles: The familiar phrase used to express the measure of the diabetic tendency is the patient's "carbohydrate tolerance." Recently it has become more and more apparent that the carbohydrate tolerance cannot be considered as a thing apart from the metabolic process as a whole; that a patient receiving carbohydrates within the limit of his tolerance may have the scales turned against him, and glycosuria or acidosis or both may result from carelessly increasing the metabolic load on the side of proteins or fats.

It should, therefore, be kept in mind that, in the broad sense, the inside limit of carbohydrate tolerance is synonymous with a sugar-free and acid-free urine.

Since the physiological principle of balance in the diet cannot be entirely abandoned in the diabetic diet, it becomes important to compare the relative influence on sugar and acid production, respectively, of the three main food principles.

In the production of sugar, carbohydrates are foremost.

Proteins are potentially glycogenic. They actively contribute to sugar formation in proportion to the severity of the diabetic tendency. In the worst cases nearly sixty per cent. of metabolized protein appears in the urine as sugar, represented by the dextrose—nitrogen ratio of 3.65 to 1.

Fats do not form sugar, though by adding to the general burden of metabolism, may weaken the mechanism for utilization of carbohydrates and proteins.

In the production of acids, fats are foremost.

Proteins are capable of contributing to increased acid formation.

Carbohydrates do not form acids. On the contrary, the presence of a surplus of carbohydrate within the blood and tissues tends to check an increasing acidosis through providing fuel for oxidation, thus sparing fats from burning. Still, it must be remembered that the continued presence of carbohydrates in excess of the ability of the tissues to utilize them, causes glycosuria to persist, thereby aggravating the tendency to acidosis always associated with persistent glycosuria.

Thus it is seen that either glycosuria or acidosis may be unfavorably influenced by feeding either carbohydrates, proteins or fats. This seemingly constitutes a dilemma. The way out lies in the fact that in nearly every case there are limits within which these untoward tenden-

*Read by title before the Tri-State Medical Association of the Carolinas and Virginia, at Durham, N. C., February 21-22, 1917.

cies are avoided. The secondary character of acidosis makes treatment possible. When glycosuria is abolished the tendency to acidosis is held in abeyance. Under these circumstances fats can be used in the diet liberally. There is a limit, however, beyond which their use even in a sugar-free patient becomes abuse and results in acidosis.

Until two or three years ago, tolerance for the different foods was ascertained by a process of subtraction. A test diet was given, and unless the patient became sugar-free on this diet, it was progressively cut down, chiefly on the side of the carbohydrates, until the desired result was obtained. Fast days were reserved for the worst cases. If acids were present in any considerable quantity, extreme care was exercised in reducing the carbohydrate intake, though little attention was paid to the fat ingested. In the presence of marked acidosis fasting was generally regarded as contraindicated. When both glycosuria and acidosis were marked, resort was often had to oatmeal days.

Under the older method it was usually possible to render the urine sugar-free within a week or two—in fact, I believe it may be fairly said it was possible to do so in practically every case amenable to treatment by the newer method.

When the urine became sugar-free, the carbohydrate allowance was gradually increased until the limit of tolerance was ascertained, and then the endeavor was to keep within the limit determined.

This brief review of the older treatment is made in order to contrast more clearly the modifications introduced by Allen.

The goal of treatment has not been modified by Allen's researches. It is still a sugar-free acid-free patient on a diet only a little below his limit of tolerance. The value of Allen's recommendations will turn on whether this end is more surely reached by his method, and almost as important, whether it simplifies the practical application and thus makes it more generally useful.

Allen claims that it is both surer and simpler, and nearly every writer who has reported his experience with the method endorses Allen's claims. The chief variations of the Allen treatment from former methods lie in the radicalism with which he applied facts already known.

Instead of working down towards fasting, he begins with fasting, and having freed the urine of sugar, works up. Beginning with carbohydrates, a modest allowance is reached, and proteins are added. The protein ration fairly begun, fats are included. Having reached a reasonable allowance in carbohydrates, proteins and fats, and approximated the caloric needs of the patient, more carbohydrates are added, till the carbohydrate tolerance is ascertained under conditions providing the necessary total of caloric values. If sugar appears in the urine before a satisfactory balance is reached, fasting is again immediately resorted to, and the process of addition is begun again, stopping on the safe side of the line of sugar production. There the diet is held for a time with one restricted day in seven arbitrarily introduced on general conservative principles.

Allen[1] summarizes his contribution about as follows:

(*a*) An important and new principle is tentatively suggested, that increase of weight or metabolism increases strain upon the internal pancreatic function, and *reduction of weight** or metabolism reduces this strain. In accordance with this principle most severe diabetics should be kept intentionally and permanently at a sufficiently low level of weight and metabolism. The patient's tolerance for fats and total calories should be followed in the same way as the tolerance for carbohydrates and proteins.

(*b*) Another new principle lies in insisting upon *prompt** and lasting freedom from glycosuria and acidosis *in all cases.** even the severest. To this end an initial fast is prescribed sufficient to clear up glycosuria in any case, and then one or two days longer, followed by a diet such as to keep glycosuria and acidosis permanently absent, with as many fast days interspersed as necessary for this purpose.

Certain practical advantages result incidentally. If the early stages of treatment are utilized as an educational period for the patient, including his instruction in the examination of the urine for sugar, he can follow the

1. Allen; Prolonged Fasting In Diabetes; Am. Jour. Med. Sci., CL, 480.

*Italics are the author's.

prescribed diet without constant supervision by the physician, the better because he has a simple direction to follow if sugar appears, viz., fasting.

Other encouraging features of Allen's work are that he is led to question the supposed inherent downward tendency of diabetes, to deny that there is any specific craving for carbohydrates on the part of diabetics, and to contradict the prevalent idea that most severe diabetics cannot be trusted. This last, no doubt, is largely a measure of skill in management.

It is not to be supposed that every writer has endorsed in every respect a system of treatment of so complex a condition, especially a system that presents so many and so radical departures from former methods. Fear has been expressed lest the depression of metabolism and body weight necessary to render the urine sugar-free may, through sheer physical weakness, make the last state of the patient worse than the first. I am inclined to believe this may be true, but in only a few cases hopeless from the beginning. To attack this feature of Allen's treatment in general is to question a fundamental premise of a plan that, so far, is yielding encouraging results, and to allow the objection to assume undue prominence would be to sacrifice much of the new hope.

If the statement could go unchallenged, perhaps the most significant of all of Allen's claims would be this: * * * "The fact that it, (the proposed method) stops glycosuria without running any risk of acidosis makes it available for a large body of general practitioners who have heretofore not felt safe in withdrawing carbohydrates, or attempting to stop glycosuria in cases with any marked ketonuria." I believe the Allen method is available for the large body of general practitioners referred to, but not with that degree of assurance Allen manifests as regards the danger of acidosis. The warning voiced by Dr. Joslin is of so great practical importance that it is worth while to emphasize it.

Joslin[2] says: "It is undoubtedly true that the majority of diabetic patients will show little acidosis upon fasting, or if this has been present it will decrease. On the other hand, it is not always easy to predict what will occur. Therefore, it is safer to take pains to avoid the development of acidosis in those predisposed to it.

"Individuals predisposed to acidosis are those in whom the disease is of long duration. These are the patients who, after having lived in a fairly comfortable condition for years, finally succumb to active treatment within a few days of its commencement."

Joslin summarizes his recommendations for preparation for fasting as follows: "In very severe, long standing, complicated, obese and elderly cases, as well as in all cases with acidosis, without otherwise changing the habits or diet, omit fat, after two days omit the protein, and then halve the carbohydrates daily until the patient is taking only 10 grams; then fast. In other cases begin fasting at once."

As Allen has come to question the necessary downward tendency of diabetes, so Joslin feels that "coma no longer represents the culmination of the disease, but that it is an avoidable accident."

It would be a misrepresentation to make the impression of an antagonism which does not exist betewen two men who have accorded each other the most generous support. On this point, however, Joslin's conservatism seems rather better adapted to the conditions under which the general practitioner and internist must work.

Observing Joslin's precautions, dangerous degrees of acidosis are usually avoided rather than treated, and the use of alkalies is necessary in only a very few cases.

The importance of exercise seems sufficient to rank it as a principle of treatment. There is no advantage in confining the average patient to bed during fasting, and the general influence of quite strenuous exercise seems definitely to promote an increase in carbohydrate tolerance.

Morale: Most of those engaged today in the practice of medicine gained their impression of diabetes before the recent work of Allen. No doubt, to the majority, Allen's contribution presented itself at first as the achievement of a specialist working under favorable conditions, and many, doubtless, still hesitate to revise their conception of diabetes as a disease with an inherent downward tendency. While the future will almost certainly see improvement over present methods, the advances made

2. Joslin: Treatment of Diabetes Mellitus; p. 245. Philadelphia, 1916.

have served to introduce a definite new note of optimism, and the treatment of diabetes has reached a stage of development which should encourage both the physician and the patient. The number of diabetics in the United States is estimated at more than 500,000. It is at once apparent that whatever is done for the amelioration of the condition of the great mass of these sufferers must come through the rank and file of the profession rather than at the hands of a few specialists of unusual skill.

A comparison of diabetes with tuberlulosis is both suggestive and encouraging to those called upon to treat diabetes. Both are chronic and both are widely distributed. The number of cases of each justifies the effort required of the individual doctor to master its principles. No one claims to cure either tuberculosis or diabetes. But the majority of cases detected in the early stages can be controlled. In neither condition can the advantage of early treatment be emphasized too strongly. This applies hardly less to diabetes than to tuberculosis.

The diagnosis of early diabetes is vastly easier than that of early tuberculosis. The practice of routine examination of the urine for sugar will result in the recognition of nearly every case of diabetes at the first opportunity. The prompt relief of disagreeable symptoms obtained by rendering the urine sugar-free is more gratifying to the patient than almost any known measure applicable to tuberculosis. In the matter of inconvenience to the patient and loss of time from work, separation from home and friends, the consciousness of one's self as a menace to his family and associates, are all in favor of the diabetic. The probability of an early return to the accustomed occupation and of living to a matured old age is greater in diabetes. The net result in added years and comfort while living is, I believe, greater in diabetes intelligently treated than in tuberculosis. Perhaps this fact could be established from tables already compiled based on the treatment of diabetes by the older methods. At any rate, Joslin reports a mortality twenty per cent. lower under the newer treatment than he had with the old.

It would seem that the time has about come when neglect of early diabetes will be as little excused as neglect of early tuberculosis.

I was recently impressed by the fact that a certain amount of readjustment is needed in the mental attitude of at least one physician toward the subject of diabetes. A letter was received from a thoroughly trained and competent doctor, expressing considerable surprise that his brother should have remained sugar-free for five months, except for one day. As a matter of fact, the case was early, was not severe, and the patient had exercised a most intelligent watch over his diet and urine after returning home.

The successful management of a case requires not only that the physician shall know food values, but that he shall also impart to the patient whatever of reassurance and determination is necessary to encourage him to live within his tolerance. Naturally, it is rare that the very close relations between physician and patient obtaining during the first few days or weeks can be indefinitely maintained. What is said to the patient preparatory to putting his welfare in his own hands will, of course, vary with many circumstances. In addition to detailed instruction as to what to do, he must assume his independence with the will to fight based on the conviction that his fight will be worth while.

It is of the greatest help for the patient to know of the success of others suffering with the disease of a grade corresponding to his own. He may be profitably reminded of the many people whose god is their belly. He may be assured that, with time, successful control grows less, rather than more, irksome. Custom and habit soften the rigor of any hardship, and by even the most superficial standard, dietary restraint is less a trial than marked diabetic symptoms.

The chagrin of an ambitious young person in the thought of part of his energy necessarily wasted in combating disease may be lightened by a knowledge of the fact that every man's arteries have begun to degenerate at twenty-five.

He may be informed that arterio-sclerosis, Bright's disease and heart trouble all require dietetic limitations, and are all chronic, incurable diseases; that gastric ulcer patients are frequently starved, and then have to be oper-

ated on; that the victim of tuberculosis, though encouraged to eat, often cannot. The diabetic would not exchange places with the blind man. In short, as chronic disease goes, diabetes is by no means the worst, and its treatment holds rather more than its fair share of promise. We may remind the patient that Trudeau had tuberculosis; that Napoleon is said to have been an epileptic, and that thousands of diabetics of all ages are pursuing approximately their normal activities every day.

When the patient has been rendered sugar-free and acid-free, and his carbohydrate and total caloric tolerance determined; when his education in food values is completed; when his moral sense of penalties and rewards with relation to diabetes is fully developed, the diabetic may be entrusted with the management of his own case, on the understanding that he should report to his physician should trouble arise, and at regular intervals in any case.

6 *West Franklin Street.*

A REVIEW OF THINGS MATERIAL—DEFINITIONS OF LIFE, MATTER AND ENERGY. [THESIS No. 1.]*

By H. E. JONES, M. D., Roanoke, Va.

Electrons.—We, and all things, organic and inorganic, are evoluted from the smallest divisible particle of matter, the electron, which is estimated to be, by scientists, 1-47,000,000,000 of a millimeter. The electrons are formed into atoms and the atoms into molecules. The atoms are modified electrons.

The difference between all forms of matter is due to the difference of the arrangement of the atoms in the molecule in the evolutionary building up process of each special type of matter.

The atom is said to be a structure of the greatest complexity of arrangement of its component parts, whose balance and composition, when upset, disintegrates with explosive violence, which is shown by the phenomena of radio activity. It is a small cosmos composed of innumerable electrons stored up with prodigious energy.

Molecules.—A molecule is the smallest portion of a compound body, which is made up of a number of different kinds of atoms, making a molecule, of which the compound body is composed.

States of Matter.—Up to a short time back, scientists considered proven that only three states of matter existed, viz: solids, liquids and gases. As a matter of fact, there are four states of matter in existence, viz: solids, liquids, gases and *radiant matter.*

X-rays.—This latter was discovered and demonstrated by means of the cathode-ray and radium. The rays pass through metal and glass, from which fact Prof. Roentgen discovered the X-rays. It is known that the rays are streams of actual matter, which consist of particles no lagrer than one thousandth of the size of the hydrogen atom, which, up to the time of the discovery, was considered the smallest particle known to scientists,—which atom is the basis of the atomic theory of chemistry.

Sub-Atomic Theory.—Since the discovery of cathode rays and radium, a new science of sub-atomic chemistry has developed, which means that there are particles of matter many times smaller than the atom, which has astonished the scientific world.

Forces.—From this an understanding of material forces has taken place, such as the relation between electricity, gravitation, heat and light, their laws, and the knowledge of induction; the electro-magnetic theory of light and the phenomena which led to the discovery and development of wireless telegraphy.

Electricity.—High tension currents of electricity, produced by the static machine and the induction coil, have led to the minute study of what is going on in vacuum and X-ray tubes, when the currents are passing through them. For instance, it has been proven that the rays of light, visible or invisible, are minute particles of matter, electrons, going at a high rate of speed, each of which is negatively charged with electricity. This matter is called radiant, or the fourth state of matter, which can be diverted during its passage by a magnetic current. Heat is another example of radiant matter. If the rays were not actual particles of matter, they could not be so diverted. This has also shown that electricity and the other material forces are electronic in structure; therefore, are material substances.

*Read before the Roanoke Academy of Medicine, November 20, 1916, and read by title before the Southwest Virginia Medical Society, at Roanoke, Va., December 21, 1916.

X-rays.—The X-rays, it is said, as shown by reflection and refraction, are not visible light rays; they are invisible light rays, proven by their action on photographic plates, and are an instantaneous electro-magnetic disturbance of the ether. Their penetrating power shows that they are electronic in size and it has been proven that they are electro-negative; it is only a material, physical substance that can become electro-negative or electro-positive. Hence, it is a material substance, composed of electrons in an extremely unstable state.

Seeking stability causes it to furnish a force that does the work for which we are utilizing it.

Electrons.—An electron is an infinitesimal particle of matter, whose calculated volume is one thousandth of an hydrogen atom, which is 1-47,000,000 millimeter,—the electron is 1-47,000,000,000 millimeter, with a negative charge of electricity 1-3,040,000,000,000 millimeter.

Goldstein Rays.—The canal rays of Goldstein, which carries a positive charge of electricity, can be diverted or deflected by magnetism, which shows that they are particles of matter, as it is only matter upon which magnetism can act. The above figures are given to illustrate the extreme divisibility and smallness of the primary and ultimate forms of matter.

Chemistry.—Chemistry is subtile physics, and is a scientific knowledge of the minute particles of matter, viz: the electrons, ion, atom and molecule. It detects the relative power of these particles of matter, their laws, their means of composition and decomposition. It enables us to understand how substances and larger bodies are constructed and disrupted. It demonstrates the impossibility of changing one element into another; we cannot make or change oxygen out of or into nitrogen, nor gold into iron or silver. It shows that the eighty or more elements in nature can be combined in many different ways to make all the compound bodies which we see in nature. It demonstrates that the world and its surrounding atmosphere consist of all the elements and forces in myriad combinations. It also demonstrates that we cannot destroy force nor matter, but it shows us that we can combine and form many subtsances, which, when disintegrated or decomposed, return to their original elements.

How Elements Are Made.—By the application of the different forces of nature to the different elements of nature, all things have been made and created by nature, as most scientists claim, or by a Supreme Being, as all religionists claim.

Elements and Forces.—From reasoning, deduction and experiment, it appears that the forces and elements of nature are correlative and interchangeable, *i. e.*, the forces can be combined into elements and elements into forces. When forces are changed from a state of instability to a state of stability, they become elements; when the elements are changed from a state of stability to a state of instability, they become forces. Hence the development of sub-atomic chemistry, which is of comparatively recent date.

The forces and elements of nature are interdependent and are constantly associated one with the other. Force cannot exist without the presence of matter, and matter cannot exist without the presence of force; it requires both to make an entity.

Gross and subtile physics point to the fact that, when every known entity (force and matter), is reduced to its ultimate divisibility, they are all one and the same physical substance—the electron; hence it is claimed that all matter is only force and electricity. The action of stability on instability and instability on stability is the cause of all matter and force in nature.

Electricity.—Says one, in substance, that electricity is not power; it is a material by and through its instability; it is a vehicle by which power is transported.

Another says it "occupies the twilight zone between the material and spiritual and that God is the great electricity and that we are born, we cry, dance, play, work, toil, enjoy, suffer. love and die as He touches the electric keys." These electrical keys necessarily play on the electrical keys of all organic and inorganic material. Electricity is the instable material and method by which God comes in contact with the universe and all of its creatures; and is also the material by which He transmits His power and compelling force to them, and it is the connecting link by which He is contin-

nally connected with everything, thereby making it possible for Him to be omnipresent and in contact with everything in existence; living and so-called, non-living substances.

Living Matter—Dividing Line.—It is believed by some that all matter lives in some obscure degree. The dividing line between living and non-living, or animated and inanimated is hard to distinguish. The true test of life in an object is its irritability or sensitiveness. The galvanometer shows that iron is as irritable as an animal. Metals have periods of activity and rest like animals. They show fatigue when stimulated; and stimulants and narcotics have action upon them similar to that observed in animals.

Force and Spirit.—The action of instable matter on stable matter gives rise to force and spirit and *vice versa*. Therefore, it follows that, to have the manifestation or presence of either, physical entities must be present or remote. In the latter case, there must be a medium of transportation of said force or spirit.

Hence, it follows that the great Jehovah and the souls of men must be, in some obscure degree, a subtile or infinitesimal material, so much so that the gross senses cannot recognize their materiality. There are bodies or tenuous and subtile things that do not affect the unaided eye or ear. To many things the eye is sightless, yet, with the aid of the microscope, the telescope and photographic plates, objects unseen before they were used are made visible. To many sounds the ear is deaf, yet, with the aid of the microphone, the crawl of a fly or flea is like the march of cavalry. There are many, many physical things or entities that the unaided senses cannot reocgnize, but can be recognized with the proper physical instruments. There are many physical entities that, with our present means of aid, cannot be recognized; but who will dare say but that some day our physical aids will be improved, or new and better ones invented, that will enable us to recognize the subtile, material substances—organic and inorganic—that have heretofore been, so far as the *genus homo* is concerned, non-existent.

Infralife.—Prof. E. E. Fournier d'Albe, an English scientist, says there are an infinite chain of universes above and below our own. In infralife, he says that it requires many millions of molecules to form a living organism, and he claims a molecule is a universe; an atom, a star; and an electron is a planet. A dewdrop may contain thousands of small animals which eat and fight, love and die, and whose span of life is probably filled with as many events as our own.

Molecule.—"A molecule of quinine consists of $C_{22}H_{24}N_2O_2$; these atoms are arranged in groups and sub-groups. The whole molecule is a veritable phalanx of stars, the sun swaying in gentle oscillations or slow orbits, the planets darting around as if to preserve the integrity of the empire of their central luminary, the whole system ablaze with light and astir with motion.

"A piece of stellar architecture, beside which Orion is without form and void, this molecule is built into a gorgeous system of a trillion units of like structure, all of which go to make up a single particle of quinine."

Life, Matter and Energy.—Life, gross and subtile, signifies energies or forces resident in material substances, drawn and derived from the sun, which is an inexhaustible source of physical energy, and maintains the activity of all living things. The natural forces are transformed but not created by living matter, and the forces of organic and inorganic matter are the same. Forces derived from chemical action on metals show the same action and properties as those derived from living organisms.

Life is the function of the development of the earth and sun, which causes a ceaseless dance of the molecules constituting living matter. Matter and force are essential and necessary to consciousness and spirit. The matter is continuously changing, but spirit and consciousness, it is said, have no solution of continuity.

There is a law of change and a law of continuity, which deals with energies that are neither created nor destroyed. We do not know what part of the cosmos takes up mentality at death.

Chemical Action.—Chemical action is demonstrated by different forms of energy, in both organic and inorganic material. It may be heat, light, or electricity; it is not only a rearrangement of matter, but is also a transformation of forces.

Electricity and Life.—Dr. Loeb's researches

have shown the identity of electricity and life. The chief value of food is to produce electricity and, therefore, life. The production of heat and other substancees and forces are of secondary importance.

Life—Electro-Magnetic Force.—The deductions drawn from the above force us to conclude that life is an electro-magnetic force. The molecules of tissue are molecular magnets surrounded by a continuous flowing electric current, which shows a molecule of tissue to be a rotating portion of electrified matter.

The brain produces thought; the latter yields a force which penetrates through all media or matter thus far tried.

Science offers consolation to the soul, but it does not require any suspension of nature's laws in doing so. With many, immortality is not desirable,—mortality or annihilation is considered prolonged rest and is not to be feared when age comes with its inevitable assembly of infirmities.

The phenomena of the body are vital demonstrations of chemistry and mechanics, and life is force acting on matter.

Everything is Material.—No substance or thing can be conceived of as existing in an immaterial form, which means nothing—non-existent. The soul or spiritual state cannot be nothing. If nothing is nothing there is no existence. Therefore, the spiritual state cannot be nothing; it is bound to be a subtile, material substance or is the consequence of subtile material and forces.

Life Dependent.—Life is dependent on a God, on the physical world and all its forces, on space and on the distant planets, on the sun and the elastic solid called ether, which occupies all space and the bodies which are contained within it, and lastly, on the whole universe.

The studies of the physics of the electron have dethroned many cherished hypotheses, and show that it plays an important part in determining the physico-chemical properties of a substance.

They who do not feel the darkness will never look for the light. So look for the light by investigation and in literature and base your conclusions on scientific objectivity and reasoning.

From the electronic theory cellular structures do not indicate the ultimate atomic divisibility of matter. The cellular theory is as far from the understanding of ultimate particles of matter as the atomic is from the sub-atomic understanding of matter.

The activities of living cells are explained on physico-chemical basis. Each cell is a congregation of vibrating atoms, which atoms and their varied combinations are the basic constituents of all that exist.

Electron Theory.—The three entities are ether, energy and matter. The electron theory has solved the ultimate structure of matter and force and reduces matter, all electric, gravitational and magnetic phenomena, to the distribution and motion of electrons.

As above stated, matter is made up of molecules, molecules of atoms and atoms of electrons; the electrons are charges of electricity. The number of electrons in an atom is proportional to the atomic weight of the element. When the crowding of electrons becomes excessive, as in radium, thorium and uranium, the atoms become radio active, owing to collisions between electrons, some of which are constantly shot away.

Radiation.—Radiation refers to a change in the velocity of an electron, which causes ripples in the surrounding ether. When the velocity of an electric charge is increased, diminished or changed in direction, Roentgen rays, light and other radiations result. It is claimed that all atoms of matter are more or less radio active. The electron is the smallest entity known; it is a sphere of positive electrification, enclosing a number of negative electrified corpuscles, which counterbalance the positive electricity of the enclosing sphere. The electrons are characterized by the *uniformity of their vibrations.* Light and other radiations are dependent on disturbances in the surrounding ether, caused by the change in the motions of the corpuscles or electrons.

We refer to perpetual motion as impossible, yet the whole universe is naught else. *Matter is only an effect of a definite kind of motion.* During the revolutions of the electrons, thousands of billions of times per second, an electro-magnetic field of energy is created, but the rhythmic changes in the field of energy thus transmitted by the ether have thus

far eluded all instruments for their detection and study.

Moving electrons are known as radiations, and the vibrations in the ether therefrom, with a certain limit of frequency, constitutes light, and, in another frequency, constitutes X-rays, in another heat, in another gravitation, in another magnetic energy, and in another electricity.

Motion and Energy.—Everything in nature is in a state of perpetual motion, and the latter is continually changing from one velocity to another. The power to change the state of motion of a body is energy. The total energy contained in matter depends on the extent to which it can be changed. Energy is a universal commodity on which all life depends. All forms of energy, whether derived from heat, electricity, magnetism or gravitation, *are interconvertible*, and *interchangeable* and represent practically different varieties of motion. Energy cannot be created nor destroyed. Energy is always associated with matter, and when associated with minute quantities of matter, it is proportionately enormous. It is said one gram of hydrogen possesses sufficient energy to raise one million tons through a height exceeding three hundred feet. One gram of radium yields enough heat every hour to melt one and three-fifths times its own weight of ice. Physicists are wondering if it is possible to get control of this store of subatomic energy. Electrons are only electricity and naught else is in existence but electrons. Why? Because everything, (matter and forces) is composed of electrons.

Chemistry and Electricity.—Gases conduct electricity at the rate of one thousand miles per second; liquids an inch per hour. In solids the atoms are realtively fixed and their only power is that of vibration. Certain electronic aggregations will hold in an unstable condition a few more electrons than exactly suffices to balance the surrounding sphere of positive electricity. The atoms thus constituted are negatively charged. Others hold a few less electrons than suffice to balance the positive electricity. This leaves the atom positively electrified. If these types of atoms are free to move and they unite and utilize each other electrically, we have chemical union.

The spinthariscope enables one to watch the action of a single atom of radium. The particle has been photographed, and it was demonstrated that in the phenomena of radio activity we are at the birth of helium. Electronic or sub-atomic chemistry is showing that it is possible to synthetize helium from hydrogen, neon from hydrogen and oxygen, argon from sulphur and hydrogen, and krypton from selenium and hydrogen.

"Water, to the eye of the poet, the symbol of peace and rest, its flow a quiet, continuous, gliding movement; viewed through the molecular spectacles of science, presents a picture compared with which the most frenzied action of a fighting mob is almost absolute stillness. So the electronic fluid, when it is forced into the lime-light of searching inquiry undergoes a similar transformation."

Physical Phenomena.—All physical phenomena are forms of motion. Our present conceptions of matter and forces presumes a cyclic or vibratory motion of electrons, and it continues as potential energy until transformed into actual energy by some exciting energy from without. It is like water power, potential in the lake, actual in the waterfall or river. Every living being is a transformer of energy, converting the environmental energy into mechanical motion, heat and nervous energy. The sun is the direct source of all the energy animating the earth's surface. All forms energy and matter are merely protean manifestations of the same thing, as their *inter-convertibility* is conceded.

Energy liberated by the organism appears in mechanical, thermal and electrical form.

Physiological action is associated with electrical phenomena.

The chemical reactions of the cell are dependent on protoplasm, which belongs to the colloids, non-conductors of electricity. Crystalloids, the other cellular constituents, are conductors of electricity.

In emulsion colloids, if the reaction is alkaline, the charge is always negative; if acid, positive. Physiologic action is associated with electrical phenomena, all of which can be demonstrated and measured.

Olfaction surpasses in sensitiveness the most impressible scientific instruments. The spectroscope can detect a quantity of helium weighing no more than three one-hundred-millionths of a grain; yet the nose can per-

ceive an odor of three hundred times smaller quantity of sulphureted hydrogen. A. Graham Bell says if an odor could be measured, a new science would be created. By means of the byodinamometer it can be shown that each odor can be identified by its *specific rate of vibration.*

The earth is the negative terminal of nature's energy.

Electric Current and Conductors.—The electric current is naught else but a series of electrons, handed along frim one atom to another through the conductor. A conductor is a substance containing electrons which are free to move. In non-conductors the electrons are fixed and unable to follow the impulse of the field.

Vibration.—One man differs from another man only in the sense that his electrons show varying rates of vibration.

Oil of roses and coal gas have the identical compositions $H_4 C_4$,—yet the mephitic odor of the one, and the delightful odor of the other is merely a *question of rate of vibration.*

Human energy is of high frequency and voltage, and passes out of the body in straight lines.

Emition radiations are streams of electrified particles. Energy is appropriated from the physical forces which make up the environment of man.

Pathology is physiology of the sick, or physiology in a state of disequilibration. Anatomic changes are sequential to a disease and not the disease itself.

The Cartesian conception that matter can not act where it is not, was overthrown by Newton in his law of universal gravitation.

All problems in biology not in accord with the progress made in physical science are doomed to perish.

Cell division by mitosis suggests appearance of iron filings in a magnetic field. Each cell is an electrical energy, with negative and positive properties.

The lines of force of electrons depend on their specific arrangement. The molecules represent an aggregation of electric batteries.

The ultimate particles of matter and energy are identical, and mind and matter are but two aspects of the same thing.

Electrification is the result of force between two different substances (destruction of atoms into electrons), one becoming positively and the other negatively charged. The process is not restricted to solids, but applies also to gases, liquids and radiant matter.

It has been shown that man is in substance and in structure one with the brutes. But our reverence for him is not lessened by this fact, for he is the only animal in the possession of speech. Man is made up of vibrations, and personality is identified with atomic combination. He is a transformer of environmental energy and is a reflex animal.

The earth is a gyroscope of larger magnitude, and its rotation on its axis is due to electrical induction.

Magneton.—A newly-discovered constituent of matter is the magneton, which is a magnetic, sub-atomic element. The electron symbolizing the new ideas of the discontinuous structure of electricity. The magneton embraces an analogous evolution in our conception of magnetic phenomena. Magnetic force is discharged by the escape of electrons from the magnet. The conclusion is warranted that there is a constant circulation of electrons throughout nature. Electrons scattered in space substitute the imaginary ether.

Electro-magnetic radiations show that they possess all the properties of light waves, the only apparent difference being in their greater wave length. Therefore, the modern physicists regard light as an electro-magnetic phenomena. The sun is an inexhaustible source of physical energy which pours upon the earth and the latter is only a huge armature rotating at high speed in the sun's magnetic field.

Gravitation.—The transformation of gravitation makes up the activity of the universe. Gravitation is an electrical attraction corresponding to chemical, magnetic and electrical attraction. The suppositious ether through which these attractions act is in itself an electric charge.

Human energy is electro-magnetic.

Gravitational energy traverses all non-conductors, and responds to the reaction of electro-magnetic radiation. Hence, it is electro-magnetic and cannot be insulated. Positive and negative electricity together make up the ether. A continuous shearing force applied to the ether in metals produces a conduction

current. In a conductor, ether is not rigid; in an insulator it is resilient; when displaced, it springs back again.

Polarity.—Polarity is not confined to magnets alone. The earth acts like a great magnet, and by its inductive action confers polarity on all things in nature. The secret of gravitation is wound up in electro-magnetic force.

All matter lives; there is unity of the living and the non-living world of materiality. All forms of mechanical movement are transformation of the heat of the sun.

Light, as an agent in hastening chemical change, is everywhere witnessed in nature.

Brain and muscle workers often develop a work-fever before they can accomplish or yield their best efforts. The physical organism gets into a somewhat analogous condition to that occurring in fever. A little fever increases the fertility of the brain and the tonicity and activity of the mucles. The organism works better in proportion as the heat and light, to a degree, are more intense, and many cannot accomplish much in the dark.

Color.—Yellow augments tonicity of all the organs, whereas other colors diminish the tonicity. It has been shown that colors are capable of *differentiation by rate of vibration and polarity.*

Thought transference is proven to be a reality, which may explain the phenomena of telepathy.

In man there is a faculty which permits him, at times, to communicate directly with the consciousness of another individual.

In any Leyden jar, one may store normal or pathologic human energy.

From the proven electron theory of matter and energy, and the proven fact that every variety of matter and energy has its special electronic rate of motion and vibration, all science, and our profession in particular, has made rapid strides, which, unfortunately, many of us are not keeping up with.

Upon this theory, sub-atomic chemistry is developed and being developed. New diagnostic methods and new medicinal and mechanical therapeutic methods have been formulated and proven, that will revolutionize our ability to diagnose and treat disease.

If I am permitted by you, it is my desire, at some subsequent time, to follow this article by a second article on the electronic diagnosis and electronic therapy of disease.

Many of the definitions given above are given practically in the exact phraseology of the different authors named below in the bibliography, without quotation, but due credit is given to them.

This, the first article, is written preparatory to, and for our better understanding and practical use, of the one to follow.

BIBLIOGRAPHY.

Kelven, Prof. Fournier d'Albe, Soddy, Dr. Geo. S. White, Dr. Loeb, Dr. Albert Abrams.

DEMENTIA PRAECOX.*

By K. M. FERGUSON, M. D., Marion, Va.
Third Assistant Physician, Southwestern State Hospital.

I do not know how near insanity has been reduced to a rational pathology. It seems easy to believe that general paresis due to a specific cause has, but in most instances the etiology of mental diseases, so far as we know, not only remains unknown, but the direction in which research should be undertaken is even a matter of dispute. Much of the research work on insanity has been concentrated upon the brain, but the great thesis, as we believe, of modern pathology is the integrity of the whole human organism. All attempts to explain the phenomenon of hydrocephalus on local anatomic conditions have been disappointing, but the observations of Wagler have proven that this condition is accompanied by the absence of the adrenal cortex. My observations in this paper relate to dementia praecox, and are superficial enough at least not to prove tedious and have the merit of brevity.

We believe that such researches as have already been made in this field point to adequate physical causes, for the symptoms and the bodily decline of these patients, though scientific investigation into this great fastness is just beginning. It is inspiring, however, to know that we are not without precedent for the hope that a remedy may be discovered for dementia praecox before the full pathology of the disease is made clear, just as has been the experience of the profession in malaria, for instance. In paroxysmal exacerbations of temperature from malarial poisoning, we know it to be due to a blood parasite existing and con-

*Read before a meeting of Superintendents of the State Hospitals of Virginia, at Marion, Va., August, 1916.

tinuing its cycle of existence in the red blood corpuscle of the infected individual. Several varieties exist, each of which is associated with a characteristic type of fever, as the parasite of the quartan fever, as the parasite of the tertian fever; they accomplish their cycle of development within a given number of hours, and with this comes the malarial paroxysm, conforming with absolute regularity to the variety of the parasite. Here we know as absolutely as we can know anything, the cause of the daily or every other day exacerbations of fever, and we know that anemia must follow as a consequence, because the red blood corpuscles are destroyed as often as they become the host of the parasites. It is well to have this distinct knowledge as to the cause of malaria, but it has not added one whit to the effectiveness of the treatment we already had for the disease, and may we not hope at least for something in this direction in dementia praecox, a disease whose pathology is far more obscure than that of malaria!

The morphological and physical conditions of the blood are easiest studied by methods which seem already perfected. In our experience here, in numerical blood counts in these dementia praecox cases, the red corpuscles are almost invariably increased, and in some instances to 8,000,000 or more. The white vary, but usually are not increased, and most often are about 4,000. In every single differential count we have made the multinuclears are below normal, and so invariably true is this, that I would call into question the correctness of a dementia praecox diagnosis if we had a normal multinuclear count. In our own experience here we have found it as low as 40 per cent. or 50 per cent. The coagulability of the blood in these cases is enormously heightened, and the time greatly shortened, often having it to coagulate in the pipette before the diluting fluid could be added. Now, just what all this means from a pathological standpoint in this particular disease, we do not know, but we believe that the multinuclear leukocytes play an important role, and that approximately a normal number are absolutely necessary for the formation and maintaining of a specific ferment in the blood necessary to balancing the mental processes. Lundvall, of Switzerland, observed that his dementia praecox cases, when suffering from any acute diseases that produced a hyperleucoytosis, improved mentally, and from this observation originated the thought of producing an artificial hyperleucocytosis with the idea of curing the disease.

We are all doubtless familiar with Dr. Holmes' article on this subject, reprints of which are gotten out by the Abbott Chemical Company, of Chicago, giving the Lundvall formula, which is principally nucleate of sodium; nucleinic acid is the active principle to which this formula owes its virtue. This agent, as we understand it, is derived from the thymus, thyroid, suprarenal, pancreas and other ductless glands. A similar agent producing a similar effect is also derived from yeast. We have had a limited experience with the Lundvall formula furnished by the Abbott Chemical Company in ten c.c. ampules—just the box they sent us as a sample. One of these ampules given hypodermically will in those cases that react to this agent produce a temperature of from 101 to 102, followed by a decided increase in the leukocyte count. This agent, however, was too expensive for our experimentation. Nuclein made from yeast and furnished by Parke, Davis & Co., one of their preparations to be taken by stomach, and the other hypodermically, will produce a limited hyperleucocytosis, but the agent which we have principally used is nucleanate of sodium, made by Merck. This we give in 10 c.c. of normal sterile saline solution hypodermically in doses of from 15 to 25 grains. We believe that this agent will produce the same effect as the Lundvall formula furnished in ampules by the Abbott Chemical Co., and that it is even more practical, to say nothing of the vast difference in the cost, for we can in this way measure the dose to the individual needs of any particular patient. I have been curious to know whether or not doses of from ten to twenty-five grains of nucleanate of sodium given to a normal individual would invariably produce the characteristic reaction. I believe it would, but I have not had the control subjects with whom I might make the experiment. We find, however, that the doomed praecox cases will not react to doses of even twenty-five grains; this dose will produce a slight leucocytosis, which will last only a day or two, and after a few doses it will not even do this. I have learned by former experiments that autoserotherapy is a very potential remedy when we come to deal with streptococcic infections. This

plan of treatment is one that is effective in puerpural sepsis, in erysipelas, in recurring boils, and in tubercular conditions that are hurrying to a fatal termination through the process of mixed infection, which is principally the streptococcus.

I am not sufficiently equipped with training in biochemistry to make plain the principle of defensive ferments, set in action by this agent, by this method of treatment, but I can do this much with mathematical precision: I can establish by a leukocyte count before and after the administration of this agent, that one of the things it does is to greatly increase the leukocytes, and this fact has led to the thought that the praecox case that does not react to the sodium nucleanate might be helped by the blood serum of one who does react, and I have this form of experiment in hand now, and find that in this way we can get a hyperleucocytosis of from 30 to 35 thousand in the patient who has been irresponsive to even 35 grains of sodium nucleanate, which, in my judgment, is a very large dose. It is to be noted, however, that while you get the reaction and the hyperleucocytosis in the praecox case that does well, this does not mean in every other case, where you can produce with this agent a similar reaction and a similar leucocytosis, that you will get a similar result, so far as curing the patient is concerned.

It is believed by those who have most observed this disease, that its curability is confined to its early stages, and that a time comes in its history when it passes beyond the pale of curability, and this time is not only measured by the weeks and months of its existence but by the intensity of the disease as well. There is probably no other type of mental disease where an early diagnosis and an early treatment is so imperative and promises so much as in this. The law of cause and effect is an inexorable law, and it seems cruel in its demands, but, we cannot evade its inexorableness; our only hope and alternative is to find and remove the cause, and if we can remove the cause, even without finding it, the result is just the same. If artificial hyperleucocytosis will cure one praecox case, it is not much of a stretch of the imagination to believe that it will cure others, provided that a diagnosis can be had in the curable stage.†

We believe it is often true that before the mental processes are very far afield, we have the pathognomonic evidence of this disease in the multinuclear count, and in evidence of this statement we can show you such a type of the disease. Dementia praecox involves the fate of more than fifteen thousand young people in this country each year, and it is appalling enough to arouse a nation-wide sympathy, and a nation-wide effort to save them.

For brevity, we would, in conclusion, emphasize the following fact: Diabetes and dementia praecox seem to be associated; while sugar is not invariably found in praecox cases, it is too often present to accept the fact as a mere coincidence, and in the pathology of diabetes it is stated in the text-books that we have a pancreatic form due to interference of the function of the panereas by toxic disturbances, and we believe that the pancreas is the source of the sugar in these cases. A diagnosis of dementia praecox through microscopic findings, is possible before the deranged mental processes are very marked. In early diagnosed cases artificial hyperleucocytosis rights the abnormal conditions of the blood.

†Up to April 1, 1917, we have had eight cures of these cases, which we hope are permanent.—F.

Clinical Reports.

CASE OF DIVERTICULITIS OF THE SIGMOID SIMULATING CARCINOMA.*

By THOMAS E. NEILL, M. D., Washington, D. C.

I am indebted to Dr. Mitchell for allowing me to report this case.

Mrs. M. N., 67 years of age, was seen December 26, 1915, having been brought in by her physician from the country. Previous history was negative until about two or three weeks ago. She had never had any children; has been constipated all her life. She was seen by her physician for her present trouble about two or three weeks ago, complaining with rumbling in the abdomen and constipation. Laxatives were given, and helped for a time. There was no rise of temperature; pulse was 80 to 90. For the past few days she has had much headache. Enemas gave no relief. Urine has been normal. She was seen three days ago by Dr. Clark in consultation at her home in the country, at which time she had beginning nausea. A diagnosis of chronic

*Read before the Medical and Surgical Society of the District of Columbia, February 1, 1917.

obstruction was made. On the night of December 25, she started vomiting about 8 o'clock; between the attacks of vomiting she slept well. She has lost no weight, especially in the last year, and even gained a few pounds during the past summer. Her physician said that during the cramps and vomiting there could be heard loud rumbling in the intestines, and a large coil of intestines could be seen projecting below the left costal margin. When seen by us, she had recently had a hypodermic of morphine, so the intestines were quiet.

Examination showed a rather sparely nourished woman, in fairly good condition. Her abdomen was full and distended, but there was no spasm and no visible cramps. On palpation no mass could be felt, nor could anything be made out by rectum. The condition at this time suggested most strongly carcinoma of the sigmoid. An exploratory operation was advised.

On December 27, 1915, a median suprapubic incision was made and, on opening the abdomen, enormously distended large and small intestine presented. The cecum was enormously distended and also the appendix. A McBurney incision was made and the cecum attached to the peritoneum with silk sutures, a pouch being brought out through the wound. This was tapped with a large trocar and immediately the intestines collapsed. Further examination of the growth was then made and found to be situated directly at the pelvic brim and was apparently movable. The condition seemed worthy of further exploration and attempted removal when she would be in a better condition and the bowels thoroughly emptied. The bowel immediately above the growth was enormously distended and hypertrophied, and it seemed possible that after this disappeared, conditions for removal might be favorable. A tube was then stitched in the cecum and the median wound was closed in layers with catgut and silk, reinforced by silkworm gut.

January 12, 1916.—The patient has done very well since the operation. The tube which was placed in the cecum relieved the distention temporarily and was removed in 48 hours, and the bowel widely opened. The bowel was washed out with large irrigations of water and great quantities of fecal matter obtained. After three or four days the abdomen subsided completely when the rectum was washed out and fairly normal bowel movements were obtained through the rectum. She has recently been up in a chair and has improved greatly in her general condition. Her abdomen is now flat. She is taking food well and except for some retention of urine is having no trouble. An attempt will be made to excise the growth.

January 14, 1916.—Incision was made through the left rectus muscle and the stricture explored. The indurated area in the rectum was found just at the brim of the pelvis, adherent to the left tube and ovary and fixed to the posterior wall of the abdomen over the vessels. It was freed by dividing the tube, leaving the ovary and tube attached to the tumor. The peritoneum was then split on the outer side of the sigmoid and the ureter, which was also quite adherent, was freed. The iliac artery was also freely exposed and kept out of danger. In this way the growth was gradually freed, its mesentery ligated, and the bowel clamped and divided above the growth with a cautery. The growth was then gradually freed from the iliac artery and ureter and worked down until free bowel was obtained below it. Here again the bowel was clamped and divided with a cautery below the growth, leaving several centimeters of normal bowel on either side of the growth in the portion removed. The divided ends could be brought together readily and were about the same size, the great distention above the stricture having largely disappeared since the previous operation, although the bowel was still somewhat thickened. The posterior edges of the two ends of the bowel were sutured with through-and-through chromic catgut stitches tied on the mucous surface. A rubber tube, about three-fourths an inch in diameter was then pushed down into the lower segment and brought out the rectum, and was anchored to the anterior wall of the upper segment with a single catgut stitch. The mucous membrane of the two segments was then brought in apposition and union made by a row of interrupted chromic catgut stitches. Four mattress sutures were then placed in the lower segment at equidistant points on its circumference, and by using these as retractors and making slight traction on the tube through the rectum, the upper segment was pulled down within the lower segment, very much resembling an intussusception. The mattress sutures were placed about 2 cm. from the cut edge of the lower segment. They were then threaded on

needles and passed into the upper segment. These were reinforced by other interrupted sutures of chromic gut, so that a fairly secure inversion was obtained. The omentum was freed and pulled down and tucked around the anastomosis, walling off the intestines from it. Three or four gauze and protective wicks were then placed to the line of suture, the peritoneum having been closed on the posterior wall, leaving a fairly smooth surface. The abdomen was closed about these drains, which were brought out through the lower angle of the wound, the peritoneum and muscles being closed with catgut, the skin with silk, with through-and-through silkworm gut sutures, including all layers. The patient stood the operation very well, but on account of its length, she was given salt solution beneath the breasts.

January 17, 1916.—The patient has done exceedingly well since the operation. She is now taking her food well, her temperature is normal, and she had a fairly good movement today through the cecostomy wound. The gauze wicks are draining a small amount of bloody serum.

January 21, 1916.—The patient is doing beautifully. She is now having movements through the colostomy wound with passage of gas through the rectum. The gauze wicks have all been removed from the incision on the left side. There was escape of fluid through this for one or two days on irrigating the colostomy wound, but this has ceased. There was considerable pus, but no fecal fistula apparently exists.

February 4, 1916.—The patient is still in excellent condition. She is having regular movements by rectum and the colostomy wound is gradually closing down. The incision on the left side rapidly cleaned up, and is now almost entirely healed, except for a small granulating area in the skin.

February 14, 1916.—The patient is up in a chair most of the day and is beginning to walk. An attempt will be made in a few days to close the colostomy wound.

February 26, 1916.—With 1:1000 cocaine, the skin around the cecostomy opening was infiltrated and an incision made about one-half to one cm. from the opening, completely encircling it. With a running silk suture the fistula was closed so as to leave a clean field of operation. The field being disinfected with iodine, a dissection was now made until the peritoneum was reached. The sutures holding the cecum against the peritoneum were divided and the cecum entirely freed and drawn into the wound. The fistulous tract was now cut away flush with the bowel, the general cavity being protected by gauze packs. The opening in the cecum was closed by a through-and-through continuous catgut stitch. This was further turned in by a second catgut suture, approximating the peritoneal surfaces of the bowel and inverting the first stitch. A third similar stitch of silk turned in this second catgut stitch. A piece of free omentum was now laid over the closure and the bowel allowed to drop back. The peritoneum and transversalis and internal oblique were closed with catgut stitches, and the external oblique slightly overlapped and sutured with catgut. The skin was closed with fine silk and a small drain was brought out between stitches, reaching only to external oblique. This operation was done in the patient's bedroom and she experienced no inconvenience from it.

March 1, 1916.—The patient has had no rise of temperature following operation. The sutures were removed today and the wound has healed. She rested in bed for 48 hours after the operation, and is now walking around in splendid condition and will leave the hospital shortly.

The tumor was taken to Dr. Eugene Whitmore for microscopical examination, which was done on January 18, 1916.

Anatomical Diagnosis: Projecting from the surface of the mucosa is a polypoid mass, 2½ cm. long and 1 cm. in diameter. The tip of this mass is intensely congested and hemorrhagic, and shows small areas of ulceration. Below this mass is a smaller polypoid mass, 13 mm. long and 4 mm. in diameter. The tip shows the same congestion and ulceration as does the tip of the larger mass. A number of smaller polypoid masses are found over the surface of the mucosa. The mucosa is covered with a layer of mucus, which shows a number of small areas of ulceration. Deeper in the wall of the intestine, there is thickening and induration. The mucosa is freely movable over these indurated areas. On section, these areas are firm, and appear fibrous. On the peritoneal surface are a number of small cysts with thin walls and clear, serous contents. One nodule, 1½ cm. by 1 cm., appears firm like

a gland, and on section shows a white, fibrous appearing area in its center.

Histo-Pathological Diagnosis: The large polypoid mass is composed of mucosa. The surface shows a tendency to form projections, like a papilloma. These projections are congested, and some of them show hemorrhage and ulceration. There is no abnormality in the arrangement of the epithelium. The indurated areas in the wall of the intestine are composed partly of fibrous tissue and partly of a hypertrophied muscular coat. The cysts on the peritoneal surface are serous cysts. The firm mass is composed of fibrous tissue. There is no evidence that it is a gland. The appearance is that of a chronic inflammation of the mucosa with polypus formation, with no evidence of malignancy.

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Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 98.)

Operations on Tonsils and Adenoids in Diphtheria Carriers.

By THOMAS HUBBARD, M. D., Toledo.

Classification of diphtheria carriers: (1) Primary or healthy carriers. (2) Secondary carriers.

1. Have never had clinical diphtheria showing perfect immunity toward the diphtheria bacilli found in nose and throat.

2. Includes persons who have had clinical diphtheria one or more times, and in whose secretions diphtheria bacilli can be found twenty-one days or more after last attack.

Local treatment is very unsatisfactory, as most of these cases have enlarged tonsils and adenoids, and crypts cannot be reached by antiseptic applications. However, it should be added that certain cases must be treated in this manner until in condition for the radical surgical method, and occasionally it will be successful.

Thorough tonsillectomy and adenoidectomy are proving very efficient in cleaning up carriers.

In group one, operations—that is, tonsillectomy and adenoidectomy—can be undertaken with confidence that the person is perfectly immune. In spite of the fact that false membranes appear in tonsillar fossae, these patients recover in ordinary period.

In group two it must be borne in mind that the immunity is not dependable. Each case must be studied carefully. Immunity test of Schick, made before the time of operation, will aid decision.

In all of these cases exhibiting transient immunity the question of antitoxin naturally comes up. Anaphylaxis must be taken into consideration, tests of sensitization, etc., and all precautions taken in administration of serum at such intervals.

The physical condition, together with the skin reaction tests, should decide whether or not the patient is in condition for operation.

Case Report.—Secondary type. A carrier for several months after second attack of diphtheria. Immunity very transient. Recovery in one week after operation, even though genuine diphtheritic pseudomembrane was extensive. No diphtheria bacilli after ten days.

DISCUSSION.

Dr. Stanton Friedberg (as guest—by request): This problem of carriers was called to our attention several years ago by the fact that we had patients who, on account of having positive cultures in their throats, were compelled to remain in the hospital for weeks, sometimes fifty to sixty days. As we only have a limited capacity (thirty to forty beds), this was a serious problem, for here we had clinically well patients occupying beds which we really needed. We experimented along various medical lines without any particular effect in some of the cases, and it was then that Kale was brought out in these cases. In spite of all the local treatment we found that there were a number of the cases that would not clear up, but had to remain in the hospital forty or fifty days. In these cases I would urge nasal cultures as well as pharyngeal, for we frequently found that we had positive nasal cultures when there were no positive pharyngeal cultures.

A certain class of these cases will clear up under medicinal treatment. We have tried out vaccines without any particular effect. The feasibility of medical treatment in some of these cases we can illustrate in this way: We know that we find the bacilli in the depths of

the crypt, where it is impossible to reach the condition. It is here also discovered in the epithelium, and that perhaps explains why we do not get any effect from local applications of medicine.

As to those cases which involve the nasopharynx and the nasal accessory sinuses, as Dr. Hubbard has mentioned, the accessory sinus cases are the hardest ones to deal with. To illustrate the futility of the use of the staphylococcus spray, I would cite a case in which we were deterred from using this method—a case where meningitis followed its use.

In the case of a child between two and three years of age, who had nasal discharge, a mixed infection, staphylococcus unilateral with diphtheria bacilli constant, there were repeated cultures which were always positive. The house physician looked into the nose and found a shoe button there which was keeping up the local infection, and upon removing the shoe button it cleared up immediately.

We have had other cases where the culture removed remained positive in chronic rhinitis, which may possibly have been some ethmoid involvement. There are a number of points which might be brought out that are most interesting. One condition which we ought to consider is the occurrence of the postdiphtheritic paralyses. I do not know whether any work has been done in these cases or not. There was a question in my mind as to whether or not the constant harboring by the tonsil of toxins thrown out continually did not produce these paralyses. It would be interesting to investigate peripheral neuritis. I would like to do it if I get the cases, for I think it would be an interesting fact to determine.

We have made it a practice to give medication a thorough trial. We took the Schick skin reaction, operating only in six cases in which the reaction was negative. We have not used anything after operation. We have taken the nasal cultures and other cultures afterwards, so that our results would not be influenced by any application made to the throat. It is common in large hospitals for cultures to be taken, after an application is made to the throat, and in the event of securing three negative results to let the patient go out. We determined to eliminate that factor entirely. The results after operation have not differed in any respect from those seen ordinarily. I reported several months ago six cases in which we had removed the tonsils and adenoids, where the results were startling. The next day after operation, without any application at all, the cases cleared. We took cultures for five days afterwards, and each time they were negative, except in one case, in which the nasal cultures remained positive.

The whole question is very important, and a simple reference to the literature will show a gradual wave in the curve of the amount of work contributed to the study of carriers in recent years.

Dr. Robert Clyde Lynch, New Orleans: My experience in this direction covers twelve or fourteen cases, and there are a few points I would like to bring to your notice. First of all, there are twenty or more varieties of pseudopathic bacilli in which the microscopist appears almost unable to absolutely and faultlessly tell the difference between the true organism and the pseudo variety. I think this is important, for frequently we might be dealing with a pseudo variety.

The second point is in relation to a little matter of technic in the administration of antitoxin in patients who have been previously sensitized by the administration of horse serum. The patient is given a small dose just above the ankle, and there is a constrictor ready for application above the knee; three or four drops are injected just under the skin above the ankle, and the constrictor ready. Sufficient time is allowed for the development of the anaphylactic symptoms, and if they do not develop in one-half to three-quarters of an hour, the injection can be made. If they should develop, the constrictor is applied.

I would like to report a case of a medical student, who had rather a virulent attack of diphtheria, which yielded to twenty thousand units of antitoxin. The patient gradually got well and finally had two negative cultures, with a normal temperature four days, and was ready for discharge. Suddenly there was a rise of temperature to 99 degrees, and the appearance on the surface of the tonsil of acute follicular tonsillitis, which gave a culture of probable diphtheria. This was fourteen days after the first injection of antitoxin. We proceeded

again to give him 120,000 units, and he was discharged. Six weeks later he came walking in on crutches, just able to get about, with paralysis of the soft palate and extensor muscles of the extremities, and suffering from constipation, which he had never had before. This man's cultures were taken and shown to be positive from the tonsils. He was treated locally without any result. Tonsillectomy was done, and in two weeks after the tonsillectomy the paralysis entirely disappeared without further medication.

Another case in which tonsillectomy was performed for carrier yielded nice results as far as the operation went The cultures remained positive—nasal as well as throat cultures. We have taken cultures of both nostrils separately, and in this case we determined the discharge was coming from the antrum. We made a large opening into the anterior meatus and irrigated the antrum with buttermilk. The use of buttermilk has also cleared up some of the diphtheria carriers.

Another striking feature was that in nine out of the fourteen cases in which we could determine the form of organism coming from one or both tonsils, when the tonsils were removed we could not determine any organism in the tonsillar material. Yet all the cases cleared up immediately after tonsillectomy, and in none of these cases was the reformation of membrane in any way different from the usual case of tonsillectomy.

Dr. Robert C. Myles, New York City: This is a subject which interests me in a practical way, because of the fact that in many of the hospitals we frequently find children who have chronic nasal trouble with bacilli, without any other evidence of disease. The subject at hand would then be, what relation would a child having diphtheria carriers, but without any other evidence of diphtheria, bear to the other children in the home? I have had some very difficult propositions to contend with at times—sometimes the bacilli were found, and sometimes not, with the Board of Health inquiring, and the child is absolutely well and a perfect specimen of health at the time. I think this is a matter of important consideration. Of course, it is a purely local question, and our education of the Board of Health is one of the most important things in the matter.

Dr. Thomas Hubbard, Toledo (closing the discussion): All the study of the primary cases of carriers, without ever having clinical evidence of the disease, is largely institutional work, and to some extent also secondary cases. This latter group, however, have some diphtheria and are still diphtheria carriers. It is going to be put up to laryngologists to help them out in this matter, and by another year I hope to have records of many more cases and to arrive at definite conclusions.

(*To be Continued.*)

Analyses, Selections, Etc.

Physiology of the New-born Infant.

By FRITZ B. TALBOT, M. D., Boston.

(*Amer. Jour. Dis. Child.*, June, 1917.)*

The "mechanical" cause of loss of weight during the first days of life are quite obvious. The "physiologic" loss is due to the actual oxidation of body substance as a result of metabolism, and to the fact that the baby is virtually starved during the colostrum period. The body heat and energy must be supplied largely by the glycogen in the liver and tissues. This glycogen is quickly used up and the energy is then obtained from the body fat. Infants without a good layer of fat at birth should receive food at the earliest possible moment. This is especially true of prematurely born infants who are so deficient in fat.

Another point brought out by Dr. Talbot is that a new-born infant requires approximately 62 calories per kilogram of body weight per twenty-four hours, but needs more as he grows older. It has long been thought that the requirements of infants relative to the weight are greatest during the first months of life, but gradually diminish as the baby grows older. This is true only, according to Dr. Talbot, after the third or fourth month.

The author cites a number of figures regarding the body-surface computed from the body-weight by the Lissauer formula, and finally sums up his interesting article by saying, in part, that chilling from exposure or a water

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

bath depresses the metabolism and with it all the body functions. Moreover, since a newborn infant is starved until the breast milk "comes in," weak or premature infants should be fed shortly after birth.

The Morbidity and Mortality of Pertussis and Measles, With Particular Reference to Age.

By BORDEN S. VEEDER, M. D., St. Louis.
(*Arch. Ped.*, June, 1917.)*

This paper is a compilation of figures and charts from which the author brings out several facts of interest and vital importance concerning the morbidity and mortality of pertussis and measles in childhood. For instance, over one-half of the deaths from pertussis occur in infants under one year of age, and over three-quarters under two years. For measles, 23.8 per cent. occur in the first year of life and about 55.3 per cent. in infants under two.

Between 9,000 and 10,000 deaths from each disease take place annually in the United States. While the death rate as a whole, and for certain diseases as tuberculosis, diphtheria, diarrhoea and enteritis under two years, and typhoid fever, shows a decrease in the registration area in the past fifteen years, that for measles and pertussis has remained practically the same.

Nearly 80 per cent., then, of the pertussis and over one-half of the measles deaths occur in infancy. The older the child the lower the fatality rate.

Frequency of Tuberculides in Infancy and Childhood and Their Relation to Prognosis.

By T. C. HEMPELMANN, M. D., St. Louis.
(*Arch. Ped.*, May, 1917.)*

The author, after giving the definition of tuberculides and a short discussion concerning the characteristics of the lesions and just how these lesions are formed, cites a series of 40 cases of tuberculosis in children showing papulonecrotic tuberculides. It is interesting to note that 30 of these cases occurred under 2 years of age, while the other 10 were distributed through the period between 2 and 12 years. It is of still further interest to note that in all but one of these 40 cases there was evidence of lung or trachelbronchial lymph node involvement in addition to the tuberculides.

In a series of 130 cases of pulmonary tuberculosis among infants under two years of age, tuberculides occurred 30 times. Twenty-one of 62 babies in the first year of life showed tuberculides, and nine of 68 in the second year.

Contrary to the popular idea that tuberculides were always a very bad sign, only 13 of the 40 cases are known to have died, 11 of these being in the first year of life and the other two in the second year. Eleven children were observed for a period of at least one year after the occurrence of the tuberculides and were living and doing well when last heard from. Of 5 under one year old, three were observed for two years or longer, two for three years or longer, and one for five years. Of 5 in the second year of life, two were observed for three years, and one for four years. One other child, three and one-half years old when tuberculides were first discovered, was living at the time of the last note on the history, over two years later.

The Use of the Longitudinal Sinus for Diagnostic and Therapeutic Measures in Infancy.

By ALAN BROWN, M. D.,
and
GEORGE E. SMITH, B. A., M. D.,
Toronto, Canada.
(*Amer. Jour. Dis. Child.*, June, 1917.)*

The longitudinal sinus is given as the best route through which blood is obtained for diagnostic and therapeutic measures in infancy. The technic described is one easily acquired. The vein is rigid, cannot be pushed aside and, on entering, one gets a definite sensation of entering a vessel. It is advisable to enter the fontanel at the beginning of the suture just posterior to the fontanel.

Technic.—All that is necessary is a 20 c.c. Luer syringe, with an 18 or 20 gauge needle about one and one-fourth inches long. The bevel of the latter is about 45 degrees, so that the point does not enter the sinus deeply. A guard is placed about one-fourth inch from the extreme tip of the needle to prevent the latter transfixing the sinus as it passes, sometimes abruptly, through the fibrous layer of the fontanel. The infant is securely wrapped in a

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

sheet and held on its back, while the head is held securely in the middle line and slightly flexed. The operator stands at the side of the infant, facing it, the bevel of the needle being held parallel to the skin, so that the opening in the needle will be patent with the sinus as soon as it is entered.

Transfixing the sinus by the needle, which occasionally happens, has never, in the experience of the authors, resulted in any untoward symptoms. Furthermore, autopsies have failed to reveal any signs of injury.

This operation has been employed by the authors for the intravenous administration of diphtheritic anti-toxin, diarsenol, saline injections, and for blood cultures, with most favorable results.

A Contribution to the Physiology of the Ureter and Vas Deferens.

D. I. Macht made studies on the isolated ureter and vas deferens of animals and from the surgical operating room, which were confirmed by observations of those organs in situ in various animals. The isolated ureter is best studied by means of ureteral rings. These contract rhythmically so that the rate and force of peristaltic movements and the tonus of the ureter can be studied. The optimum medium is a Locke solution plus a small quantity of fresh urine. Urea stimulates the contractions of the ureter; a slightly acid medium is also necessary for the furtherance of the contractions. The vas deferens, on the contrary, survives best in a slightly alkaline medium. These conditions of acidity and alkalinity correspond to those in nature. Oxygen is necessary for the proper maintenance of the contractions of both ureter and vas deferens. Heat first stimulates and subsequently paralyzes the contractions. Cold slowly inhibits them.

Both ureter and vas react to epinephrin, which fact proves that they are inervated by the true sympathetic. The response to ergotoxin still further corroborates this fact.

Both ureter and vas react to the so-called parasympathetic drugs: pilocarpin, physostigmin, cholin, muscarin and atropin, which fact proves that they are also inervated by the parasympathetic fibres.

Both ureter and vas react to nicotin, which fact points to the presence of ganglion cells in their walls.—(*Jour. of Urology.*)

Injuries to the Pancreas Following Operations on the Right Kidney.

Hugh H. Young & J. A. C. Colston (James Buchanan Brady Urological Institute, Johns Hopkins Hospital) suggest that many cases of severe post-operative distention may be due to injury to the pancreas during kidney operations. Such injury may occur, as is shown by the autopsy on one case described, and is a most serious accident. The pancreas extends around the duodenum to the rear at the point where it is nearest the kidney, and at this point the structures are fixed so that they cannot recede in case of trauma. In the case mentioned, an aberrant artery to the pole of the kidney made necesasry the use of clamps in the depths of the wound, the pancreatic tissue being crushed. The authors advised greatest care to avoid this event.—(*Jour. of Urology.*)

The Growth of Bacillus Coli in Urine at Varying Hydrogen Ion Concentrations.

Previous experimental work has shown that the growth of bacteria is inhibited if the acidity of the medium reaches a certain point. A. T. Shohl and J. H. Janney (James Buchanan Brady Urological Institute, Johns Hopkins Hospital) determine the range of hydrogen ion concentration (P H) at which B coli will grow in urine, with the idea that regulation of the reaction of the urine may be practicable as a therapeutic measure in pyelitis. They show that B coli is inhibited at P H 4.6 to 5.0 on the acid side, 9.2 to 9.6 on the alkaline side. The typhoid bacillus has narrower limits. Practical application of these points is reserved for a future publication.—(*Jour. of Urology.*)

Motor Cars in United States.

In 1916, Iowa led the United States in the number of motor cars registered in proportion to population. She had one car for every 11 persons. California had one for every 12 and Nebraska and South Dakota one for every 13. The average for the United States was one for every 29 persons. Arkansas had only one car for every 116 persons.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Practical Medicine Series. Volume III. THE EYE, EAR, NOSE AND THROAT. Series 1917. Chicago. Year Book Publishers, 608 S. Dearborn Street. Cloth. 12 mo. 372 pages. Price, $1.50; series of 10 volumes, $10.

This volume, as others in the Practical Medicine Series, is well indexed and illustrated. The depratments on the Eye, the Ear, and the Nose and Throat are edited respectively by Drs. Casey A. Wood, Albert H. Andrews, and George E. Shambaugh, all of Chicago. The abstracts published are of articles appearing in a number of the leading journals on these specialties.

State Work Against Infantile Paralysis.

The Institute for Public Service, 51 Chambers street, New York City, has issued a book of 64 pages, on the above subject, which was compiled by the co-operation of forty-three state health departments, the U. S. Public Health Service, New York City Health Department and others. To cover cost of printing and mailing a charge of 50 cents per copy postpaid is made. There were over 26,000 cases of the disease reported in the United States during 1916. It is a compilation of some of the procedures followed in different cities and states and the book should prove of value to health officers toward the introduction of standard methods and the adoption of uniform regulations. "Because no one knows—yet—the exact medium that carries infantile paralysis is a reason why not one of the proved usually effective laws of epidemiology should be slighted and why every reasonable precaution should be required."

Keeping healthy is a part of doing "your bit."

The only good fly is the dead one.

Editorial.

If Eligible, Will You Volunteer for Service or Be Drafted?

The first and most important need of the new army is physicians. They are needed to examine the men as mustered in, to care for their health when in the service, and to look after the sanitation of camps. For this purpose, 20,000 physicians will be needed in the army. Including physicians in the Medical Army Corps, Medical Reserve Corps and Militia, hardly a fourth of the required number are as yet available. Some states have already endorsed the selective draft plan for securing physicians. This plan will have to be adopted unless a sufficient number of volunteers present themselves.

Realizing that some steps had to be taken for securing the requisite number of physicians, the Surgeon General's Office has appealed to the medical press of the country to arouse doctors to this necessity. As a result, the American Medical Editors' Association, at its meeting in New York, in June, appointed a committee "to consider appropriate ways and means to aid in recruiting the personnel of the medical reserve corps of the U. S. military forces," and pledged "its hearty and unstinted support of all measures designed for the development of the medical forces in this hour of need." To this end, it was deemed advisable to publish a copy of the official personal application blank, which we append. Knowing what is expected, may make the matter easier to decide.

It may be well to state that commissions are accorded in the Medical Reserve Corps on the basis of First Lieutenant, Captain and Major, with respective pay of $2,000, $2,400 and $3,000 a year. No physician is commissioned lower than a First Lieutenant.

Three important requirements are that the application after being filled out must be sworn to before a Notary Public; it must be accompanied by a County Clerk's certificate certifying to the fact that the applicant is a certified practitioner; two letters from citizens testifying to the character of the applicant must accompany the application.

When these applications have been made out in accordance with instructions, they should be sent to the chairman of the nearest Examining Board, *even if in another State*, and appointment will be made for the applicant to appear for examination. The following are the chairmen for the various Virginia Boards: The Surgeon, Ft. Monroe; Lt. Burnley Lankford, M. R. C., Norfolk; Maj. Stuart McGuire, M. R. C., Richmond; Lt. H. J. Hagan, M. R. C., Roanoke, and Maj. W. D. Webb, M. C., 1803 Connecticut Avenue, N. W., Washington, D. C., who during the school session visited the University of Virginia every two weeks to give lectures.

APPLICATION FOR APPOINTMENT IN THE MEDICAL RESERVE CORPS, U. S. ARMY.

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To the Surgeon General, U. S. Army,
Washington, D. C.:

SIR:

I hereby make application to be examined for appointment in the Medical Reserve Corps, U. S. Army, and inclose testimonials as to my character and habits.*

I certify that to the best of my knowledge and belief I am laboring under no mental or physical infirmity or disability which can interfere with the efficient discharge of any duty which may be required of me if appointed in the Medical Reserve Corps, U. S. Army, and that the answers given to the interrogatories below are true and correct in every respect.

I furthermore state my willingness to proceed to such point for examination as may be designated by the Surgeon General, with the understanding that the journey entailed thereby must be made at my own expense.

INTERROGATORIES.

1. What is your name in full (including your full middle name)?
2. What was the date of your birth?
3. Where were you born? (Give State and city or county; if foreign-born, give country.)
4. When and where were you naturalized? (For applicants of alien birth only.)
5. Are you married or single?
6. Have you any minor children; if so, how many?
7. What is your height, in inches?
8. Your weight, in pounds?
9. Give the nature and dates of all serious sicknesses and injuries which you have suffered:
10. If either parent or brother or sister has died, state cause and age in each case:
11. Do you use intoxicating liquors or narcotics; if so, to what extent?
12. Have you found your health or habits to interfere with your success in civil life?
13. What academy, high school, college, or university have you attended? State periods of attendance from year to year, and whether you were graduated, giving date or dates of graduation:
14. Name any other educational advantages you have had, such as private tuition, foreign travel, etc.:
15. Give all literary or scientific degrees you have taken, if any, names of institutions granting them, and dates:
16. With what ancient or modern languages or branches of science are you acquainted?
17. How many courses of lectures have you attended? Names of colleges and dates:
18. When and where were you graduated in medicine?
19. Have you been before a State examining board? If so, state when, where, and with what result:†
20. Are you a member of any State medical Society? If so, give its name:
21. Have you had service in a hospital? If so, state where and in what capacity, giving inclusive dates of each kind of service:
22. What clinical experience have you had in dispensary or private practice?
23. Have you paid particular attention to any specialty in medicine? If so, what branch?
24. What opportunities for instruction or

*Testimonials as to character and habits from at least two reputable persons must accompany this application. Political recommendations are not necessary.

†This application must be accompanied by a certificate from the proper official that the applicant is duly registered to practice medicine in the State in which he resides.

practice in operative surgery have you had?

25. Have you previously been an applicant for entry into the United States service? If so, state when, where, and with what result (if rejected state why):
26. Are you a member of the organized militia? If so, state with what organization and in what capacity:
27. Have you been in the military or naval service of the United States as cadet or otherwise? If so, give inclusive dates of service with each organization, designating it:
28. What occupation, if any, have you followed other than that of student or practitioner?
29. What is your present post-office address?
30. What is your permanent residence?
31. (Signature of applicant):

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32. The correctness of all the statements made above was subscribed and sworn to by the applicant before me this..... day of....., 191..

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Dr. Robert C. Bryan,

Of this city, who had expected to go to France in charge of a hospital unit for Red Cross work, has been selected and assigned to duty with the Roumanian Commission, composed of men from all parts of this country. This commission will sail very shortly to take up its work of investigation of sanitary and health conditions and actual relief work among the Roumanian refugees, where conditions are most distressing.

It was decided by government authorities to merge the hospital unit which Dr. Bryan had organized with a base hospital unit, which is much larger in personnel, and have this latter go as representative of the Medical College of Virginia.

Two Base Hospital Units,

Representative of the University of Virginia and the Medical College of Virginia, are being organized for Red Cross work abroad. The one from the Medical College of Virginia will have as a nucleus the hospital unit which had been organized by Dr. Robt. C. Bryan, prior to his being called to serve on the Roumanian Commission. Dr. Stuart McGuire, president of the Medical College of Virginia, this city, has been placed in charge of the base hospital from this college. At present, he is on duty in Washington as a member of the staff of Surgeon-General Gorgas, having succeeded Dr. William J. Mayo as director of the surgical division of the medical department. Dr. J. F. Geisinger has charge of completing this unit during the absence from the city of Dr. McGuire. It will be recruited from all parts of the State. Doctors who had volunteered for Dr. Bryan's unit and will most probably go with the Medical College of Virginia base hospital unit are: Drs. Greer Baughman, J. F. Geisinger, A. L. Herring, Fred M. Hodges, W. B. Hopkins, C. H. Lewis, J. T. McKinney, C. L. Phillips, W. B. Porter, all of Richmond; F. C. Pratt, Fredericksburg, and J. E. Warinner, Jr., Henrico County.

Dr. William H. Goodwin, associate professor of surgery at the University of Virginia, is head of that unit and chief of the surgical department. A number of the University students have enlisted in the subordinate administrative personnel of the unit. The following doctors, in addition to Dr. Goodwin, are among those included in the unit: Drs. Lomax Gwathmey, Joseph S. Hume, Walter E. Miller, Norfolk; Minor Carson Lile, R. E. Pound, Herbert Jackson, Dan Witt, John Barnwell, New York City; Kyle B. Steele, Richfield Springs, N. Y.; Leroy Hyde, Lucius Gage, Edward B. Broocks, University of Virginia; John W. Burke, Claude C. Gaylor, Washington, D. C.; Gordon Todd, Princeton, W. Va.; Hugh T. Nelson, Charlottesville, Va.; E. C. Ashby, Greensboro, N. C.; George C. Parry, Philadelphia, and George Y. Gillespie, Bryn Mawr, Pa.

History of Central State Hospital.

Sometime since, Dr. William F. Drewry, superintendent of Central State Hospital, Petersburg, Va., with four other prominent alienists, members of the American Medico-Psychological Association, was appointed to collect data and publish a history of "Institutional Care of the Insane in the United States and Canada." One of Dr. Drewry's contributions

to this work of four large volumes, is a history of Central State Hospital. It has been published in pamphlet form of 39 pages, and in addition to being a history of that institution, gives an insight into the care of colored insane. Virginia in 1870 was the first State to establish an institution for the exclusive care of colored insane. Only three other States—North Carolina, Alabama and Maryland—have since taken a similar step.

Dr. Drewry is to be congratulated on his report, which is thoroughly interesting as well as instructive and gives an insight into the vastness of the work which has been accomplished at that institution.

Married—

Dr. Charles Fox Graham, son of Dr. and Mrs. J. T. Graham, Wytheville, Va., and now an assistant surgeon in the U. S. naval reserve, and Miss Louise Mountjoy Pollard, Richmond, July 12.

Dr. Richard Harrison Peake and Miss Ethel Nicholson, both of Norfolk, Va., July 25.

Dr. Ovid Clemmons Foote, assistant surgeon U. S. Navy, attached to the Naval Hospital, Norfolk, Va., and Miss Eleanor Potter, of Chicago, in New York City, July 12.

Other Virginia Doctors Who Have Enlisted.

The following are a few of the doctors in this State who have volunteered for service in addition to those previously named: Drs. Edgar Williams Young, McKenney; Alvah Ramsey, Burkeville; J. W. Tipton, Pulaski; Alvah L. Herring and Oliver F. Blankingship, Richmond; Wm. S. Wiley and Wm. R. Booher, Bristol; Allen J. Black, Hollins; T. C. Firebaugh, Harrisonburg, who has been ordered to Ft. Oglethorpe, Ga., and John W. H. Pollard, Lexington, who has been ordered to Boston.

Health Survey of Petersburg, Va.

Drs. Henry T. Carter, assistant surgeon-general, and William Draper, of the U. S. Public Health Service, were detailed by the Service to assist Dr. R. A. Martin, chief health officer of Petersburg, Va., in making a health survey of that city, and around Camp Lee, with the purpose of improving conditions, if possible, and in order to prevent the possible spread of epidemics.

Delegates to Sociological Congress.

The following doctors were among the delegates appointed by Goernor Stuart to represent Virginia at the Southern Sociological Congress, to be held at Blue Ridge, N. C., the week beginning July 30: Drs. Ennion G. Williams, Richmond; Charles R. Grandy, Norfolk, and W. Brownley Foster, Roanoke.

Dr. Claude L. Pridgen,

Wilmington, N. C., has successfully launched the enlistment campaign for the infirmary company of a new regiment of artillery in North Carolina, and is to rank as major and be chief medical officer of the regiment.

Dr. Charles M. Hazen

Has been elected president of the Citizen's Association of Bon Air, Va.

Dr. Micajah Boland,

Of the U. S. Navy, who has recently been located in this city, was assigned to sea duty about the middle of this month and expected to leave the city shortly.

Red Cross to Look After Convalescent Soldiers.

The Red Cross War Council has voted to build houses for convalencent soldiers in the camps at Ft. Oglethorpe and Ft. McPherson, Ga. These will be used for men able to leave the hospitals but still unfit for duty, and will provide amusements and recreation to break the monotony and aid in speedy recovery. At Ft. Oglethorpe, the Red Cross is also taking over a stone quarry which is to be converted into a bathing pool large enough to accommodate 600 and will be ready for use August 27, when the second officers' training camp opens.

Druggists Wish Commissions in Army and Navy.

The Virginia Pharmaceutical Association, in annual session at Old Point, this month,

voted as favoring officers' commissions for druggists who may enlist in the army under the selective draft act. The North Carolina and Maryland Associations are also favoring this measure.

Dr. George J. Tompkins,

Lynchburg, Va., was a recent visitor at Natural Bridge, Va.

Either Fight or Be Students.

Such is the advice given by Lt. Col. Jas. A. Cole, U. S. A., retired professor of military science, at the University of Virginia. He urges that as the principal burden of the war will fall upon men between 21 and 31 years of age and the war will take its toll of these men, those who do not have to fight, should stick to their studies so as to be able to worthily fill the places vacated by older men. "Students can work for their country by studying honestly. The thing is to strike hard at whatever is attempted." Surgeon-General Gorgas authorized the statement that, while medical students would not be exempted from the draft, they would be given conditional and limited furloughs to continue their medical studies.

Dr. and Mrs. O. L. Powell,

Onancock, Va., accompanied by their daughters, visited New York the early part of this month.

Dr. Hugh H. Hill,

Locust Dale, Va., was among those recently registered at Mountain Lake, Va.

Dr. John W. Martin,

Of the 1916 class of the Medical College of Virginia, has been appointed an interne at the Virginia Hospital, this city.

Richmond To Have Anti-Tuberculosis Nurse.

The Administrative Board of this city has authorized the chief health officer, Dr. Roy K. Flannagan, to employ a nurse at $65 a month for anti-tuberculosis work.

Government Hospital in Richmond.

Acting under authority conferred upon him by the government, Dr. William Russell Jones, resident surgeon of the U. S. Public Health Service, has made arrangements for the use of the Retreat for the Sick, this city, for soldiers in need of hospital attention in this section. If that should become overcrowded, he is empowered to obtain needed room elsewhere. He also states that the campaign for the free vaccination against smallpox, typhoid and paratyphoid is going ahead satisfactorily. As the government's agent, he is in charge of the work in this city, and has headquarters for the work at the offices of the City Health Department.

Boards of Appeal for Draft Cases.

Governor Stuart has appointed, with the approval of the President, two boards to which any person claiming exemption, not satisfied with the ruling of the local exemption boards may appeal. Doctors on these boards are: Drs. L. T. Royster, Norfolk, and S. T. A. Kent, Ingram.

Dr. George A. Stover,

Of South Boston, Va., has been elected chairman of the Halifax chapter of the Red Cross. Dr. Frank E. Booker, Houston, has been elected a member of the executive committee of this chapter.

Typhus Fever in Palestine.

A terrible epidemic of typhus fever is reported as raging in Palestine and especially in Jerusalem, where there is an alarming shortage of food.

Dr. and Mrs. Henry G. Carter,

Emporia, Va., left about the middle of July for a visit to Hopewell, Va. They will be gone several weeks, during which time they will also visit Baltimore.

Many Districts Lack Physicians.

The Virginia State Board of Health, Richmond, announces that, especially in the past few weeks, since enlistments in the Army and

Navy, many districts have reported the need of physicians to care for the sick. As it is probable that during the war this shortage cannot be relieved, the public is being urged to take steps necessary to prevent sickness which might otherwise have to do without medical attention. Upon application, the Board will be glad to communicate with and supply lists of places needing doctors to competent physicians who may wish to take up practice or change their present locations.

Dr. W. Herbert Lewis,

Lawrenceville, Va., has been appointed to give lectures before the Red Cross chapter recently organized in that place.

Dr. James R. Gorman,

Formerly an interne at Virginia Hospital, this city, is now taking a post-graduate course in diseases of the eye, ear and throat, and later expects to locate here.

Dr. William Henry Baughman,

Formerly of this city and a graduate of the University of Virginia in 1910, who, with five other physicians was sent abroad for special hospital work, has cabled his safe arrival in England.

British Medical Casualties.

Contrary to the statements as to the large number of casualties among British medical men, official information has been obtained, stating that total casualties among British medical officers on the western front from the beginning of the war to June 25, 1917, are as follows: Killed, 195; wounded, 707. In addition, 62 medical officers have died from sickness.

Dr. Henry S. Stern,

Formerly medical inspector of Richmond, who was sent to Ft. Oglethorpe, Ga., when first mustered into serice as lieutenant in the U. S. Medical Reserve Corps, has been directed to return to Richmond, where he is studying military Roentgenology at the Medical College of Virginia under Maj. A. L. Gray, U. S. A., of this city.

George Ben Johnston Hospital Chartered.

On July 10, the State Corporation Commission granted a charter to the above named hospital, which is to be located at Abingdon, Va., and which is to be erected and maintained as a memorial to the late Dr. George Ben Johnston, of Richmond, who was born and raised in the southwestern section of this State. It is understood that work on the hospital will be started in the next few weeks.

Dr. Charles B. Brock,

Of this city, has recently been visiting in Norfolk, Va.

Dr. and Mrs. Christopher Tompkins

And daughters, of this city, have taken a cottage at Bay Head,, N. J., to remain until the early autumn.

Dr. and Mrs. Henry A. Bullock

Have moved into their new home at 826 West Grace street, this city.

Dr. W. Armistead Gills,

Of this city, who was commissioned assistant surgeon, with rank of lieutenant, junior grade, naval reserve corps, has received an order calling him to duty August 14.

Obituary Record.

Dr. Howard W. Bassett,

Of this city, died July 15, aged 56 years. He had been in ill health for about nine weeks and was undergoing treatment, when he was stricken with apoplexy, from which he shortly afterwards died. He was a native of California, and his remains were carried to Sacramento for interment. He graduated from the Chicago Homeopathic Medical College in 1889, and was appointed an interne at the Cook County Hospital, of that city. After practising in Chicago for about ten years, he moved to Richmond, where he had since made his home. In 1906, he completed a post-graduate course at the Medical College of Virginia, continuing his practice during his studies. He was among the early users of automobiles in this city and was one of the men instrumental in starting the automobile association in Richmond. His widow and a daughter survive him.

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Original Communications.

PATRIOTIC DEVOTION TO THE MEDICAL SOCIETY OF VIRGINIA—A WORD TO VIRGINIA DOCTORS.

By GEORGE A. STOVER, M. D., South Boston, Va.
President Medical Society of Virginia.

Article II. of the Constitution of the Medical Society of Virginia reads as follows: "The object of this Society shall be the collection, diffusion, interchange, preservation of medical knowledge in the State of Virginia, the elevation of the standards of medical education, and the promotion of friendly intercourse among its members."

This is a good statement of the principles and purposes which have actuated our state organization from its founding to this present time. Should not the successful labors of the great men of our profession for the accomplishment, in a large measure, of these objects arouse in us a lively sense of appreciation, and cause us to feel a patriotic devotion to this great Society?

This is a day when our patriotism is at white heat. In normal times, we have always been good Americans, good Virginians, but in these times of world-stress, our Americanism is intensified and our devotion to Virginia more ardent than ever before. Certain principles of right and justice, dear to our hearts as Americans and Virginians, have been violated, and we stand united to do our part in their defense. Our field of vision has become world-wide, and so has our responsibility. We desire to secure for individuals the world over the benefits which we ourselves enjoy.

It seems to me that we, as physicians, should feel that the Medical Society of Virginia bears a relation to us as a professional body, similar to that which the State bears to us as her citizens. The state, founded and nurtured by our forefathers, has not only thrown her protecting care around us, but has instilled into us the principles of equal rights and personal liberty, in return for which we give her our patriotic devotion.

The Medical Society of Virginia, founded by our great and worthy predecessors, who loved their high calling and who loved humanity, has stood always for that which was right, clean and best for the advancement of science and the good of the State.

Forty-eight years have witnessed many advances, due largely to the influence of our State Society.

The standards of our profession have been raised to a higher plane, incompetents have been weeded out and our profession, as a whole, has been brought to a higher state of efficiency.

The blessings which we enjoy today and our fitness as doctors to meet the responsibilities devolving upon us in these times have been made possible through the efforts and influence of medical organization.

The point I wish to emphasize is that every doctor in Virginia should feel under a personal obligation to the State Society and give it his unstinted allegiance. It should be to us the important unit in medical organization. We should feel, it seems to me, a patriotic devotion to it similar to that which we have for Virginia and our country.

Other medical societies have their value and should have a place in our affections, but our State Society should be first. It furnishes the only means at our disposal for acting as a whole in any matter, whether it be for our defense, or for constructive work for the common good.

The best and most effective way in which

we can, at this particular time, demonstrate our devotion and at the same time help build up the Society, is to give our earnest, personal support to the component County plan of organization under which we are now working.

Some may not agree with me, but I am convinced that the two chief functions of local societies are, first, to pass on the eligibility of members, and, second, to collect dues for the State Society. It is apparent that if we keep our membership pure and our treasury full, we can accomplish anything that we desire. It is true there are other important functions of local societies, but as far as building up the State organization is concerned, these are certainly the most important. Do not get the idea that the County or local societies belong to, or are subject to, the authority of the State organization. The latter is in reality composed of the local societies and derives its powers from them.

The Executive Council of the State Society has worked out a plan for amending the constitution and by-laws, so as to remove any possibility of the exercise of arbitrary power over local societies by the State Society. These amendments will be submitted to the members in due time for their consideration, and will be finally acted on at the annual meeting in Roanoke.

I appeal, therefore, to every doctor in the State to do the following things right away, in order that we may establish our State Society on a sound, financial basis, and equip it for efficient work along any lines which may appear necessary: First, join your local society and get your friends to do likewise; second, pay your dues, if you have not already done so; third, keep in mind the fact that our next meeting is to be held in Roanoke, October 23rd to 26th, and begin your preparations now for attending and contributing to its success; and, fourth, contribute something for our program. Send title of your paper to Dr. Paulus A. Irving, Secretary, Farmville, Va., by September 15th.

Half the blindness in the world could have been prevented by prompt and proper care.

Constant vigilance is the price of freedom from flies.

Idleness is the thief of health.

EXPERIENCES WITH DAKIN'S SOLUTION.*

By WM. RUSSELL JONES, M. D., Ph. G.,
Richmond, Va.

Assistant to the Chair of Clinical Surgery, Medical College of Virginia; Acting Assistant Surgeon, U. S. Public Health Service; Visiting Surgeon, Retreat for the Sick and Memorial Hospital; Surgeon Chesapeake and Ohio Railway, etc.

The use of antiseptics has assumed a renewed prominence in surgical methods in the last few years, as a result of the necessity for treatment of badly infected wounds following injuries inflicted on the field of battle. It appears that the ordinary methods of securing asepsis, so largely relied upon in times of peace, are not sufficient in the case of the severely infected wounds of war. The treatment of badly infected wounds of extensive degree has been heretofore extremely unsatisfactory, and the antiseptics in common use have been notoriously ineffective. In a statement made in the *British Journal of Surgery*, published at an early period of the war, it is stated that there was practically no means of cure for the severe infections met with at that time. This statement was practically true in reference to many cases found in the usual course of civil practice, at least in regard to the employment of local measures of treatment.

Many new forms of antiseptics have been brought forward to meet the conditions above referred to, conditions which seem not to have been fully realized before, but which the exigencies of war have brought so forcibly to the attention of the profession.

Many of the older antiseptics have entirely failed, notably so in the case of mercuric chloride, which possesses a high germicidal power under certain conditions, but loses the greater portion of its activity in the presence of blood serum or similar substances.

Investigation for the purpose of finding an antiseptic which could be applied as a first dressing in the field to prevent sepsis was undertaken at the University of Edinburg by Dr. J. Lorraine Smith and his associates, and the results were published in the *British Medical Journal* of July 24, 1915, under the title, "Experimental Observations on the Antiseptic Action of Hypochlorous Acid, and its Application to Wound Treatment."

*Read before the Richmond Academy of Medicine and Surgery, June 12, 1917.

Some of the conclusions of these investigations may be briefly stated as follows:

1—Comparative tests confirm the conclusion that hypochlorous acid is the most powerful antiseptic known.

2—Practical methods of using this antiseptic have been devised.

3—The effect of this antiseptic is purely local, the decomposition products are devoid of toxicity, and there is, therefore, no danger to be apprehended from absorption.

4—A flow of lymph is induced from the wound, as part of the reaction of the tissues.

Hypochlorite is the active constituent of Dakin's solution. This antiseptic is described by its originator, H. D. Dakin, in the *British Medical Journal* of August 28, 1915. He states that it has the valuable property of assisting in the rapid dissolution of necrosed tissue, this being due to the ability of hypochlorites to attack the amine (NH) groups present in proteins, with formation of soluble products (forming chloramines). It has a certain hæmostatic action, but it is hæmolytic, and should not be used intravenously.

The solution is said to possess the power to kill staphylococci in water in two hours, in the strength of between 1 to 500,000 and 1 to 1,000,000; in the presence of blood serum, the action takes place in the strength of 1 to 1,500 to 1 to 2,000. Streptococci are said to be killed more readily than staphylococci.

The strength of the solution for practical use should be between .45 per cent. and .5 per cent., stronger solutions being too irritating to the skin and other tissues, while weaker solutions are not effective.

The best illustration of the effectiveness of the solution is to call attention to the results obtained in the treatment of two badly infected cases in which this antiseptic was employed.

Case 1.—Male, age about twenty years, was injured by having his thigh crushed between the couplings of two freight cars. This man was badly injured, sustaining a severe contusion of the soft tissues of the thigh, but, by a strange intervention of good luck, the femur was not fractured.

When he came into the hospital the thigh was swollen to about three times the natural size, was glistening and tense, the foot was cold, and the circulation was evidently greatly impeded, as only an occasional and feeble impulse could be detected in the dorsal artery of the foot. The skin was not ruptured, but there was a slight abrasion on the inner side of the thigh.

The patient was put to bed, the abraded surface painted with iodine, and hot wet dressings were applied (solution of chloral,—one drachm to the pint). The circulation in the limb gradually improved. A large hematoma developed on the outer side of the thigh, which was evacuated by a clean incision, the wound was closed, and promptly healed by primary union.

On the inner side of the thigh, at site of the abraded surface, a large necrotic, foul-smelling slough developed, about 4 by 6 inches in size, extending through the skin and superficial fascia. After using the usual wet antiseptic dressings (bichloride, germicidal discs, etc.) for some time without much improvement, Dakin's solution was employed. This solution was used by saturating gauze pads with the liquid and applying to the wound daily in the form of wet dressings. Within three or four days the slough separated and a fine covering of healthy granulations made its appearance.

Some irritation of the skin was noticed, due to not applying vaseline to the surface surrounding the wound. This wound soon healed, being rapidly covered with skin, and the patient made a complete recovery, with a good leg. This patient ran a temperature of 102 to 103 at various times during his illness.

Case 2.—Was one of septic endometritis, brought on in the usual way by the patient having introduced a foreign substance into the cervix of the pregnant uterus. The patient was about 26 years old, and was three months pregnant.

When called to see this patient she had been sick about four days. The foetus had been expelled, bleeding had checked, there was abdominal pain, and a foul discharge. She had had the usual chill, and fever was about 102.

The patient was sent to the hospital and, when placed on the operating table, was found to have an enlarged uterus, a red and swollen cervix, from which thick pus was discharging. The pus was wiped from the cervix, and the

uterus was emptied of clots and membrane with a dull curette. After irrigating with normal saline solution, strips of iodoform gauze were passed into the cervix to the fundus of the uterus for drainage. The gauze was removed in 36 hours, and hot lysol douches given twice daily.

The temperature dropped to 99.6 the day after operation, but, with some variations, began to rise, until on the *fifth day* following, it had reached 102.

At this time, examination again showed thick pus discharging from the cervix. The pus was wiped away as well as possible, and strips of gauze saturated with Dakin's solution were introduced into the uterus. These strips were thoroughly saturated with the solution, and their ends were long enough to project through the cervix.

After 24 hours the gauze was removed, the temperature having dropped to 100 degrees.

The second day after using the Dakin's solution, the temperature was 99.2. The third day, the temperature reached normal and remained so.

It was intended to repeat the local use of the antiseptic, but the patient's condition was so much improved that, improvement continuing, this was not considered necessary. Complete and prompt recovery resulted.

The use of Dakin's solution does not involve the employment of any new material or substance in meeting these conditions; but by a new method of utilization of chemicals long known, it gives the hope of success in their treatment.

Hypochlorite has been known as an efficient antiseptic for many years. As far back as the year 1846, Semmelweis stamped out an epidemic of puerperal fever in Vienna by the use of bleaching powder. In the form of Labarraque's Solution, or Javelle water, it has been employed for a long time, this solution owing its properties to sodium hypochlorite.

The solution of hypochlorite suggested by Dakin, modified by a delicate adjustment of chemical properties, studied in conjunction with Dr. Carrell in the method of application, constitutes the essential features of the Carrell-Dakin method.

Sodium hypochlorite is prepared by a double decomposition between calcium hypochlorite, or bleaching powder, and sodium carbonate, forming a precipitate of calcium carbonate and leaving sodium hypochlorite in solution. This solution is alkaline and irritant, and therefore unsuitable for use in wounds. It is not only alkaline when prepared but its alkalinity increases by the liberation of sodium hydroxide, with evolution of hypochlorous oxide. The property that makes it antiseptic increases its alkalinity.

These objectionable features have been controlled by the Carrell-Dakin method of preparation of hypochlorite. They have introduced into its preparation a peculiar chemical substance which, by its feebly acid nature, is capable of saturating the alkali of hypochlorite. This substance is sodium bicarbonate.

The difficulty in the preparation of the solution consists in the variable chlorine strength of bleaching powder, so that in each case the strength has to be estimated, and the proper proportion of sodium carbonate and sodium bicarbonate to correspond, have to be used.

Calcium hypochlorite of the U. S. P. is required to contain not less than 30 per cent. of available chloride, and if a standardized specimen of that ingredient, having 30 per cent. of chlorine, is used, the following quantities could be used in making the solution:

To make one liter:
Bleaching Powder, 15.4 Gm.
Sodium Carbonate (dry) 7.7 Gm.
Sodium Bicarbonate, 6.4 Gm.

The bleaching powder is dissolved in 500 c.c. of water, and allowed to stand six (6) hours.

The sodium carbonate and sodium bicarbonate are dissolved in another 500 c.c. of water, at the same time.

The latter solution is added to the former; it is well shaken and allowed to settle, after which the clear liquid is decanted and filtered. The filtrate constitutes the finished product, and should contain the proper proportion of hypochlorite.

It can be determined whether hypochlorite is alkaline or not by sprinkling some phenolphthalein powder on the surface of the liquid. If alkaline, a red coloration is produced; if not alkaline, no color appears.

In conclusion, for those who wish to further study this very interesting subject, the following journal references are given:

1—*British Medical Journal*, July 24, 1915, contribution by J. Lorraine Smith, and associates.
2—*British Medical Journal*, August 28, 1915, contribution by H. D. Dakin.
3—*Journal of the American Medical Association*, December 9, 1916, contribution by A. Carrell.
4—Reprint from the above in the *American Journal of Pharmacy*, February, 1917.
5—*Surgery, Gynaecology and Obstetries*, May, 1917, by F. C. Saner and C. Dean.

9 *West Grace Street.*

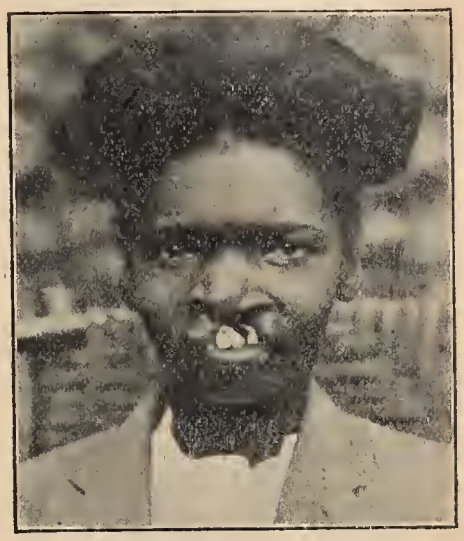
THE SURGERY OF THE DEFORMITIES OF THE MOUTH AND FACE.—ILLUSTRATIVE CASES—LANTERN SLIDES.*

By C. C. COLEMAN, M. D., F. A. C. S., Richmond, Va.
Professor Oral Surgery and Anesthesia, Medical College of Virginia.

The problems of reconstructive surgery of the mouth and face are largely those of plastic surgery in general with the addition of the superimposed difficulties arising from the greater necessity of protecting special functions and minimizing post-operative scarring. The problems of wound healing, the associated changes which injured tissue undergoes in its

Position of table for cleft palate operation on young infants. The baby is prevented from slipping on the table by a long sheet, one end of which confines the arms to the sides and the other end is twisted and secured to the foot of the table.

effort to repair, and the laws governing the transportation of various tissues must all be borne in mind in practically every reparative operation about the mouth and face. While many plastic operations in this region are undertaken for purely cosmetic purposes, a great many of these patients suffer from impaired health by reason of facial defects, and probably a larger number, while enjoying good health,



No. 432—P. S., colored, age 30. Harelip. Palate normal. Operation Nov. 5, 1914. Sutures removed Nov. 13, 1914. Discharged Nov. 16, 1914.

are unable to secure profitable employment because of their deformities. In a larger sense, therefore, this type of surgery has an economic basis.

The problems of tissue repair with a mini-

No. 432—P. S. Photograph twelve days after operation. The lip is full, free from tension and mobile. The vermilion border is accurately approximated and continues as one unbroken line across the sutured edges.

mum of deformity and loss of function are not alone in their demands upon the judgment and ingenuity of the surgeon who does this type of work. A large part of the reconstructive

*Read before the forty-seventh annual meeting of the Medical Society of Virginia (Surgical section), at Norfolk, October 24-27, 1916.

surgery of the face is done for congenital deformities, and in such cases not only must the surgeon be thoroughly grounded in the principles of plastic surgery in general, but there must be special adaptation of his technique and management to meet the physiological requirements of infancy and early childhood.

No. 819—A. L. B. Photograph three days after repair of soft palate.

No. 819—A. L. B., age 11. Wide cleft of entire palate. Photograph after repair of hard palate by Langenbeck's method.

At the other extreme of life will be found the mutilating defects caused by carcinomatous destruction. In these cases discrimination is necessary to determine the resistance of the old and debilitated to the necessary plastic procedure.

While, in a general way, we may utilize the experience of other surgeons in the management of cases of a similar type, yet the important details of the operation must be planned to meet the requirements of the individual case. Work of this kind requires an amount of patience not generally needed in other departments of surgery. It is unusual that a plastic operation can be completed under one anesthesia. Generally a series of operations is nec-

No. 925—R. B., age 12. Lymphangioma of cheek and lower lip.

No. 925—R. B. Appearance of patient after excision of lymphangioma.

essary, and both the patience of the surgeon and the endurance of the patient are taxed to the utmost to complete the work. These facts have been emphasized frequently by writers on the subject as sufficient reasons for the creation of a special department of surgery to take charge of this class of work.

In the Oral Surgical Clinic of the Medical College of Virginia during the past three years, a number of the commoner deformities of the mouth and face resulting from infec-

No. 1041—R. T. Gun-shot wound of nose and face. Load of shot also passed through both hands. Front view of patient.

tions, malignant tumors, congenital malformations and traumatic agencies have been treated. We regret that our experience in this clinic has not enabled us to make original contributions to this important subject but we have tried to meet the individual requirements of every case on the basis of well-established principles of plastic surgery. It is a pleasure to acknowledge the assistance received from the observation of the work of others along similar lines. It does not seem possible in this department of surgery to secure the best results without the cooperation of specialists in dentistry and the diseases of eye, ear, nose and throat. The development of the jaw of the growing child and the physiology of dentition are both of sufficient importance to require the supervision of the orthodontist when plastic surgical procedures on those parts involving the bony framework of the mouth, are

No. 1041—R. T. Profile of patient.

necessary. In the treatment of congenital deformities, such as cleft palate and harelip in infancy and early childhood, the cooperation

No. 1041—R. T. The load of shot destroyed the tendinous and bony connections of the third and fourth fingers of the left hand. The useless middle finger was incised along the middle of its palmar surface and the two flaps reflected backward and sutured to a bone plate. The finger was then placed under a bridge flap raised from the right iliac region so as to provide epithelial lining for the nose. Photograph shows injury to left hand, finger in position under flap, and trunk and arm encased in plaster paris.

of a pediatrist or a medical man familiar with infant feeding is an absolute essential. Active tissue repair depends largely upon the general

nutrition of the patient, and infants with harelip and cleft palate are especially prone to

No. 1041—R. T. Terminal phalanx sutured to frontal bone after removal of soft tissues. Finger left in position 16 days. Patient's head, arm, and chest in plaster cast.

nutritional disturbances. A careful examination by a competent medical man is necessary

No. 1041—R. T. Side view of patient with finger in position.

to prevent operation on infants during acute infection. A few days' stay in the hospital is usually sufficient for babies with harelip operations provided the home surroundings are reasonably good. Experience in the management of infants demonstrates certain advantages of an intelligent mother's care over that of a professioanl hospital nurse. Young infants stand operations well, provided there is no excessive loss of blood; and, as a general rule, we have followed the teachings of Brophy and Lane, and operated upon harelip and cleft

No. 1041—R. T. Result after amputation of finger. Profile.

palate as soon after birth as practicable. Children in the first few days of life have not developed any of the disorders of nutrition so common to older harelip babies. The chief difficulties of the surgery of very young infants arise from the small size of the parts and the necessity of having instruments and equipment especially designed for the work. As a rule the general surgeon is accustomed to operate almost exclusively upon adults, and naturally there is a certain amount of awkwardness in the technique when an operation is attempted upon a baby a few days old.

In extensive plastic operations about the face, we have been impressed with the importance of the after-care and dressing of the patients. It frequently happens that the best planned and most skillfully executed operations fail because of improper post-operative management. The dressing of the patients

should be done by the surgeon himself or by an assistant thoroughly familiar with this

No. 1041—R. T. Front view.

class of cases. It is generally impossible to maintain an absolute asepsis in reconstructive

No. 1041—R. T. Front view of patient after sliding flap to construct right ala of nose. Healing not complete at time of photograph.

operations. To minimize the likelihood of infection in a field where a perfect aseptic technique is not practicable, it is important that the defenses of the tissues involved be kept to their highest level. This would require, as far as possible, the relief of any debilitating disease, such as syphilis, and in every case the gentle handling of the tissues with as rapid work as is consistent with the type of operation. It is a well known fact that quickly inflicted accidental wounds about the face heal rapidly, and operation unnecessarily prolonged not only gives a great opportunity for a tissue injury but also an enormously increased proba-

No. 1041—R. T. Side view taken a few days after last operation.

bility of infection. The old and well known principles of protecting nutrition in tissue transplantation find application in practically every operation for relief of facial deformity. The observance of this principle frequently compels a surgeon to ignore the immediate appearance of an operative procedure in order that he may successfully provide for an adequate blood supply of a transplanted skin flap. The temptation to strive for immediate cosmetic effect at the expense of histological laws is not an easy one to resist. The impairment of blood supply to the flaps by extreme torsion of the pedicle, by suturing under tension or by the devitalizing trauma of operative technique are among the frequent causes of flap sloughing, which may not only defeat the purpose of the operation, but exhaust all of the available tissues for repairing the defect.

While infection is a frequent cause of post-operative scarring in a plastic operation, the failure to remove completely, at the time of operation, the scar tissue caused by a destructive agency, is responsible for an exaggerated post-operative deformity in many cases. It occasionally happens that scar tissue must be employed in the repair of a defect, and in these cases the mobilization of injured tissue should be done in such a way as to allow for the greater contraction which inevitably takes place. A mild degree of infection is generally present in plastic operations. The exposure of

No. 1210—J. W., age 16. Harelip and wide cleft palate. Marked chronic infection of oral cavity.

the operative field to fresh air and sunlight promotes the healing, and this is a practical method of treatment in operations on the face, inasmuch as no dressing is usually required.

Practically all methods of anesthesia have had enthusiastic advocates in the surgery of the mouth and face. Our own experience includes ether and chloroform by inhalation, ether by the intra-nasal method, the pharyngeal method, rectal anesthesia, conductive anesthesia, and local infiltration of novocaine. For very young infants a light chloroform anesthesia has been used. Conductive anesthesia, or blocking of the inferior dental branch of the fifth nerve, has been employed in cases of operation on the lower jaw. Warm ether vapor driven into the pharynx through a tube is the routine anesthetic in a clinic, unless some other form of anesthesia is specially indicated. We are not convinced of the advantages of rectal anesthesia except to meet some unusual indication. In one case the attempt to give ether by inhalation resulted in pul-

No. 1210—Appearance of patient after repair of lip and wiring of alveolar process. Palate cleft closed completely at later operation by Langenbeck's method.

monary hemorrhage. Rectal anesthesia was given and the operation was done satisfactorily. In another case of extensive carcinoma

No. 1200—J. F., age 14. Noma (gangrenous stomatitis). Treated by repeated applications of electric cautery at red heat. Death in three weeks from bronchopneumonia.

of the lower lip and jaw treated by a Percy cautery and ligation of the external carotid artery, rectal anesthesia was fairly satisfactory. The patient, however, developed a

troublesome diarrhea which nearly cost him his life. We see no special indication for the routine employment of rectal anesthesia in operations about the face, and we have verified and accepted the objections to the induction of anesthesia by this method. In no other department of surgery is a skilled anesthetist of greater assistance to the surgeon. Our work has been greatly facilitated during the past year by a special anesthetist who takes charge of the large majority of the anesthetics in operations about the face.

It is difficult to describe in detail the numerous and important features of the operative technique and post-operative management of cases of deformities of the mouth and face. The work requires in every case considerable study and planning and is, therefore, both difficult and fascinating. In many of these cases, however, the results are obvious, and give to the surgeon a feeling of satisfaction, which abundantly repays him for his time and labor.

200 *West Grace Street.*

THE CONSERVATION OF VISION.*

By HUNTER H. McGUIRE, M. D., Winchester, Va.

About one year ago the Council on Health and Public Instruction of the American Medical Association appointed a committee for the conservation of vision, composed of well known oculists from various parts of the country, to institute a vigorous campaign in every state in the Union and have popular lectures given in different parts in each state to instruct the people in the care of the eyes and the prevention of blindness.

The Manager for Virginia wrote me some months ago asking for my co-operation in this work and requesting that I deliver an address in this community. While I duly appreciated the importance of this subject and felt that much good could be accomplished if the matter were properly brought to the attention of the public, no opportunity presented itself until a few weeks ago I received a very cordial invitation from your President to address the Teachers' Association, so I am here today to tell you in a brief—and I fear a very imperfect way—some things you ought to know, and what you can do to enlighten children and parents in this important subject.

*Read before several Teachers' Associations and lay audiences.

Preservation of eye sight should appeal to all classes, but especially to teachers should it present opportunities for elaboration. You are in a position to disseminate knowledge as well or even better than the members of the medical profession. Brought in daily contact with large numbers of children, you can observe their visual deficiencies and can, through them, bring to the attention of parents the necessity for having them corrected. You might even influence school boards in the matter of construction of school buildings, their proper illumination, school hygiene, and the medical inspection of school children. In fact, by virtue of your calling you should strive not only to impart knowledge that will stimulate and improve the mind, but should teach children to take proper care of their bodies and to preserve their eye sight.

The human eye, the most delicately constructed organ of the human body, perfect in its mechanism, wonderfully and fearfully made, is the most abused portion of man's anatomy. When it fails to properly perform its function, it is taken around to the jewelry shop and turned in for repairs, just as your watch or your stick pin, or, perhaps, when its owner cannot conveniently go to town, he waits for the traveling "eye doctor" with the big diploma and the bag full of spectacles to put it in working order, and, lastly, it is brought to the oculist, whose life work has been spent in the study of general medicine, and whose activities have been devoted to the treatment of the eye, its diseases and abnormalities, and he too often is then expected to promptly repair the damage already wrought by these vandals, charlatans and quacks.

The conscientious ophthalmologist frequently has to remind his patient that the eye is simply a part of the human economy; that its diseases are often dependent upon abnormal conditions of the general system; that its God given function must not be interfered with by unknowing and incompetent individuals, and that it must not be treated as a mechanical instrument, but as a living vital organism with a complex optical system, whose mission is to give sight to its owner in order that he might be a useful citizen in the community.

In discussing conservation of vision, or the prevention of blindness in its broadest sense, it would be necessary to go into a discussion of a number of subjects. In its category would

be embraced ophthalmia neonatorum, medical inspection of school children, school hygiene, proper illumination of schools, halls, trains, etc., proper correction of refractive and muscular errors to prevent eye strain, protection of workers in shops against eye injuries, and the detection of trachoma.

It would not be possible, in the limited time at my disposal, to bring to your attention such a variety of subjects, nor would it be profitable to you, as teachers, to attempt to acquaint yourselves with all the conditions of the eye which cause blindness.

There are two phases of the question, however, which should appeal to you, and in which you should be vitally interested, and it is of these that I wish to speak today. I refer to the conservation of the eyes of school children and to ophthalmia neonatorum, that highly contagious and destructive inflammation attacking the eyes of infants immediately after birth.

There are twenty million school children in the United States. At least five million of these children suffer from eye diseases or defects which seriously impair their school progress. Children who have defective eyes cannot, unless relieved, receive and profit by public school education. They are always behind in their classes, much to the exasperation of their teachers and parents. Unless relieved and rendered fit for study, they are regarded as mentally deficient and morally vicious, become personally disheartened and truant, drift into bad society, commit small and then greater crimes, and eventually may enter the criminal classes and then become an expense and care to the Commonwealth.

Education is the greatest enemy of crime, and where education is difficult or impossible owing to physical defects or disease, immediate steps should be taken to remove such so that children may be able to receive and profit by education and be reared into good, valuable and respectable citizens.

Now, what can be done to detect these visual defects in our school children, and what measures can be instituted for their relief when they are discovered? The fact that a child has a diminished visual acuity or is suffering from the effects of eye strain can be determined quickly and readily by a systematic examination of the eyes of every pupil who enters our public schools. It is not necessary that such an examination should be made by a physician. The examination is simple and uncomplicated, no medical education on the part of the examiner is necessary, and any intelligent person can make the test without the slightest difficulty after a very little practice. In order to make the matter easy and practical, Dr. Allport, of Chicago, has prepared what he calls "A Visual Chart for Schools." This chart contains the usual test letters for testing vision. Each line contains one character for illiterates which enables small children who do not know their letters to be accurately tested as to their visual capacity. Full directions are furnished with these visual charts as to the proper method of making the examination. Every teacher should annually and systematically examine the eyes of each child in his or her room and the school board should set aside one day in the early fall for this work. As only five minutes will be required for the test it will be seen that a room full of children can be easily examined in one day. No teacher should complain of this work for she is the one most benefited by it. One child who through some uncorrected eye defect continually lags behind in his class and becomes idle, mischievous and disturbing, will cause the teacher more trouble in the course of a year than would the making of these tests. They are really labor and nerve saving devices and the teachers ought to recognize these facts and encourage them.

It is not to be supposed that eye tests among school children are merely for the purpose of correcting defects by glasses. Such instances are, of course, extremely frequent and many children are retarded in their school work by near-sightedness, far-sightedness, astigmatism and muscular errors—conditions which necessarily need correction by proper lenses, but there are many other ocular conditions which the school tests will disclose, such as the various forms of sore and red eyes, iritis, ulcers, cataract, cross-eyes and tear duct diseases, as well as inflammatory trouble in the back ground of the eye. Every Board of Health and school board in this country is committing a moral and social crime if they do not insist upon an annual examination of school children's eyes.

Now, what should be done in the event it is found that a child's eyes are defective? A note of warning should be immediately sent to the parents of the child, notifying them of

the fact that a visual defect does exist, and urging that the child be sent to the family physician or some specialist for treatment. If parents neglect the warning thus conveyed, the teacher should from time to time endeavor to convince them of the importance of seeking medical counsel, and teachers are urged to impress upon pupils and parents the necessity for consulting reputable physicians and not to entrust the correction of a defect in as delicate an organ as the eye to jewelers, opticians and department store clerks. Frequently you will be met with the objection on the part of parents that on account of financial distress they are unable to send their children to an oculist. In such cases it is only necessary to remind parents that the services of competent oculists can be secured without charge at the free dispensaries for the treatment of the diseases of the eye, and that the same pains-taking attention is given to patients in these institutions as in the private office of the physician.

The subject of ocular hygiene in schools is such an extensive one that I can only touch upon a few of its more important aspects. The proper lighting of school rooms is undoubtedly one of the great problems with which our school officials have to contend. In the past too little attention has been paid to it, but in recent years I am glad to see that there has been a marked improvement in the construction of our school buildings, and school boards are beginning to realize that proper illumination of interiors is much more important than an architecturally beautiful exterior. Improper lighting is a potent factor in the impairment of eye sight, and children whose eyes have been normal before entering school have not infrequently been made the victims of eye strain with its distressing consequences from just this one source.

The proper requirements of the school room cluster to a surprising degree about the problem of appropriate light of the room. The light must be sufficient so that even on cloudy days fine print can be read with ease by the normal eye in every part of the room. On bright sunny days the light should be modified and glare prevented by suitably arranged shades. The desks and seats should be arranged in such a manner that the lights from the windows will fall on them over the left of the pupil and the wall space free from windows should be in front and to the right side. On this wall space the black-board, maps and pictures used for instruction should be placed. In a school room arranged and lighted in this manner the children are not compelled to face the source of light while the work on their desk is well illuminated, and there are no annoying cross lights.

Not only is a suitable light of great importance in the conservation of vision, but also the arrangements of seats and desks. The light should not only fall on the desk on the left side of the pupil, but the desk and seat must sustain a definite relation to each other and to the size of the child. In order to prevent the child from assuming a faulty position while at work, both the desk and the seat should be susceptible of adjustment. This is an extremely important point and one that is not often considered in the equipment of school rooms. It has been definitely proven that many cases of myopia or near-sightedness in our school children are brought about by a stooping posture over a badly illuminated desk, and notwithstanding the popular view to the contrary, near-sightedness is not to be regarded as a harmless though inconvenient state of the eyes, but should be looked upon as a pathological condition, the neglect of which will often result in partial or permanent blindness. The general public is not aware of the fact that progressive near-sightedness results in a stretching of the interior coats of the eye with destructive secondary inflammatory changes, and we oculists too often discover incurable conditions in these eyes which could have been prevented or corrected in early life.

Contagious eye diseases, such as conjunctivitis or pink eye or trachoma, often spread like wild fire through a school where a few simple precautions would have prevented infection of many of these children. The use of the common roller towel, probably the most frequent source of infection in these cases, should not be tolerated in a well-conducted school. Like the common drinking cup, it has no use in an enlightened civilization, and should be regarded not only as an unsanitary, but as a dangerous article.

No discussion of the conservation of vision would be complete without reference to ophthalmia neonatorum, that highly contagious inflammation which attacks the eyes of the new born, and which has been responsible for so much of the blindness in this and other coun-

tries. You may pertinently inquire why should it be necessary to bring this subject to the attention of the school teachers. While it is perfectly true that the prevention of ophthalmia lies for the most part within the province of the doctor and the nurse, it is equally apparent that unless we can instruct the public in health matters and the prevention of disease, and through the public bring to bear upon our legislators the necessity for the enactment of laws to prevent this frightful malady, the efforts of the physician will be of little avail. And so I appeal to you as teachers to co-operate with the doctors in this important matter and help them to disseminate knowledge which may result in better conditions. Preach the gospel of good health; spread abroad the necessity for clean and moral living; give light to them that sit in darkness. and you can accomplish much in stamping out a disease that is absolutely preventable. It is of the greatest importance that there should be more wide-spread knowledge concerning ophthalmia neonatorum and its dangers.

That remarkable woman, Helen Keller, voices a very proper public sentiment when she says: "The problem of prevention should be dealt with frankly. Physicians should take pains to disseminate knowledge needful for a clear understanding of the causes of blindness. The time for hinting at unpleasant truths is past. Let us insist that the States put into practice every known and approved method of prevention and have physicians and teachers open wide the doors of knowledge for the public to enter in. The facts are not agreeable reading. Often they are revolting. But it is better that our sensibilities should be shocked than that we should be ignorant of facts on which rest sight, hearing, intelligence, morals, and the life of the children of men. Let us do our best to rend the thick curtain with which society is hiding its eye from the unpleasant but needful truths."

Ophthalmia neonatorum or conjunctivitis of the new born is due to a specific germ which gets into the eyes of the child at or shortly after birth. The infection is the result of an immoral disease contracted by the father, acquired by the mother and innocently transmitted through her to her new born babe. Its presence illustrates the truth of the Biblical statement which says "The sins of the fathers shall be visited upon the children." It is a violently destructive inflammation of the eye which, unless controlled, results in partial or permanent blindness. Those of us who have visited schools for the blind have been impressed by the large number of pathetic little figures groping their way in the bright day light, who have been left with eyes that are not only sightless but which also are deformed, disfiguring, protruding and repellent. In a large majority of instances these conditions have been due to ophthalmia neonatorum. The prevalence of this disease is appalling when we consider the fact that it is absolutely preventable.

Let me give you the percentage of blindness due to this one cause in a few of the institutions for the blind in this country: New York State School for the Blind, 31 per cent.; Pennsylvania Institute for the Blind, 44 per cent.; Maryland School for the Blind, 31 per cent.; Blind Asylum at Staunton, 45 per cent.; thirty-eight of the seventy-nine inmates at Staunton, Virginia, having lost their sight under one year of age. Laying aside for the moment the distressing and pitiful state which blindness brings to an individual, let us consider the economic loss to the nation through blindness due to this cause. A child who is blind is usually not only educated at the State's expense, but is cared for in a special institution in whcih he also receives his maintenance. The average cost for the education of a normal child in the public schools is about $30 each. The cost per pupil in the State school for the blind in Ohio is $340, or over ten times as much as it costs to educate a normal child. It has been estimated that there are over 300,000 blind people in this country, the majority of whom are blind from this cause. It costs over $15,000,000 a year to take care of them, and if the general public were instructed in this subject thousands of children would be saved from this fate and the enormous expense cut to a minimum.

Something more than a quarter of a century ago, the celebrated Belgium surgeon, Crede, feeling, as did doctors all over the world, the dreadfulness of having babies go blind from a condition which might be prevented, instituted a series of careful investigations as to the measures which might be employed for the destruction of these little germs after they had gotten into the babies' eyes, and before the important structures had been

destroyed. Finally, his efforts were rewarded. He found that an inexpensive solution of nitrate of silver could be used in very small quantities in the eyes of every new born babe without hurting the eyes of the child, but so destroying the vitality of infecting germs that might have found lodgment there that they failed to develop and no infection followed. By proper care of the new born child and by the use of protecting drops in the babies' eyes immediately after birth, in almost every instance infection can be prevented, and by the use of the prompt intelligent, and skillful care of an oculist, even when such an inflammation does develop, it can be cured and the sight of the child saved.

In some countries, notably Germany, rigid laws are in effect whereby every obstetrician is required to instil silver nitrate solution in the eyes of every new born infant, whether infection is suspected or not, and in most of the general and lying-in hospitals in this country, this practice also prevails, but not until the law becomes a general one can we hope to materially reduce the great number of cases with which we have to deal today.

Every state should have stringent laws requiring the use of Crede's preventive treatment at the birth of every infant, and a public sentiment should be created in favor of such an enactment. The first step in the accomplishment of this result will be to enlighten the public as to the prevalence, the cause, and the disastrous effects of ophthalmia. Spread abroad the fact that there are 300,000 blind people in the United States today whose sight could have been saved, and who could have been restored to useful citizenship had their parents been enlightened and had their doctors instituted preventive measures. Once create public sentiment for such laws and legislative enactment is sure to follow. It will not be a hard task for you teachers to instruct both parents and children in these matters. Small-pox has been practically eliminated from this country as a result of compulsory vaccination; typhoid fever has been reduced by inoculation, and there is no reason why ophthalmia neonatorum should continue to blind our children in the light of our present knowledge of the subject.

In this campaign for the conservation of vision, may I not appeal to you to lend a helping hand, and will you not, by concerted effort, strive to dispel much of the ignorance which alone is responsible for so much of the blindness in this country today, and which, if eliminated, will bring happiness and joy to many thousands whose lives would otherwise be plunged into misery and despair!

227 *West Water Street.*

CASE OF MASTOIDITIS COMPLICATING DIABETES—OPERATION—RECOVERY.*

By WALTER A. WELLS, M. D., Washington, D. C.

Diabetes being of itself a malady of extreme gravity, and mastoiditis being of itself an affection full of the direst possibilities, we can imagine that their combination would bode no good for the unfortunate subject. The prospect of recovery without surgical intervention under such circumstances is almost nil and operations of any kind in diabetes are generally contra-indicated both on account of the operation itself and on account of the anesthetic.

The older surgeons because of their experience in witnessing the usually unfavorable outcome of surgical intervention in this disease were for the most part opposed to intervention under any circumstances. But this extreme view is no longer held, and most surgeons of the present day advise only against operation of pure election. While recognizing the danger, and warning of an unfavorable prognosis, they admit the wisdom of performing operations of urgence.

Whether it be due to the profound nutritional disturbances present and the consequent lowering of the vitality, or whether it be that the diabetes creates a condition which in the same manner as fatigue or intoxication lessens the body resistance to infection, or whether it be true, as some one has suggested, that the sugar circulating in the blood furnishes a good culture medium for the growth of pathogenic micro-organisms, we may not be able to decide; but we know certainly that the diabetic dyscrasia makes a peculiar unfavorable condition for surgical procedures.

The observation has been frequently made that in diabetes a slight and insignificant wound may easily become the point of departure for

*Read before the Society of Northern Virginia and the District of Columbia, at Washington, D. C., November 15, 1916.

an obstinate lymphangitis or gangrenous process. Furthermore, it is well known that diabetic individuals exhibit a peculiar susceptibility to anthrax, furuncle and phlegmonous processes.

Before operating, therefore, we have considerations that must give us pause. The question of whether to operate, or not to operate will depend upon a number of circumstances.

1. The nature of the surgical disease and the urgency of the operation:—Simple tumors and non-infectious lesions do not give a bad prognosis; septic conditions are pregnant with danger. In all cases where the safety of life is at stake or where the local conditions may be thought to react unfavorably on the general health, operation is to be advised.
2. The age, the general state of health:—Old age and obesity give a bad prognosis.
3. Influence of treatment:—Amelioration under treatment and lowering or disappearance of the sugar under the proper regime gives us a right to expect a favorable outcome to operation.
4. Presence or absence of the tendinous reflexes:—Bouchard in 1884 pointed out the frequent absence of the patellar reflex in diabetes. It was noted by him and later confirmed by others that while in the beginning this reflex was present it tended to disappear as the disease advanced and would often reappear with improvement of the patient under treatment. It has, therefore, been regarded as a prognostic sign of some importance. Ordinarily the loss of reflex went together with an increase of sugar. But in certain cases the sugar has been observed to disappear without re-appearance of the reflex, and this has been supposed to portend a fatal outcome.
5. Urinary findings:—Chief reliance, of course, is to be placed in the urinary analysis. Particularly unfavorable findings are a large percentage of sugar, the presence of acetone and of beta-oxybutyric acid. According to some, unfavorable deductions are to be drawn from the presence of urobilin, albumen, and diminished excretion or urea.

When an operation has been decided upon, certain precautions are indispensable to success. If it be possible to postpone intervention, it is wise to do so, in order that the proper treatment and dietary regime can be instituted. In most instances the sugar and other abnormal constituents can be reduced, and be made to disappear. Care has to be taken that the patient is not fasted to the point of too great weakness to withstand the shock of the operation.

The operation should be performed with as little loss of blood as possible and with as much rapidity as is consistent with thorough eradication of all suppurative and gangrenous tissue. A review of a number of cases given in the literature makes it clear that the fatal termination in some cases was owing to suppurative foci that had been left behind.

In regard to the choice of anesthetic, local should be preferred to general when feasible; of general anesthetics there can be no doubt that ether is far safer than chloroform. In either instance the greatest precaution should be taken to see that the preparation employed is absolutely fresh.

Mr. J. K., age 45, consulted me July 27, 1916, on account of pain and swelling back of the left ear. The trouble had begun about five or six weeks before with pain in the muscles of the neck below the ear on the left side. Sometime afterward, attention was called to the ear by a sense of stuffiness in the left ear, but no pain.

On July 12, which was about two weeks before consulting me, and on the next day after having been at the beach and indulging in surf bathing, pain developed in the ear and two days later a discharge set in.

As long as three weeks before there were any symptoms referable to the tympanic cavity, there were pain and tenderness back of the ear and the patient had been using local applications in this region. There was also from the beginning very severe headache, generally worse in the early mornings. For the past two weeks it had been exceedingly intense and kept him awake at night.

On examination he was found to have a profuse purulent discharge from the left ear, and the entire area covering the mastoid region was swollen badly and very tender. Diagnosis

of mastoiditis was made and immediate operation advised. The patient, however, delayed and did not enter the hospital until July 31.

Here examination of urine resulted in the discovery of sugar in considerable quantity. Dr. Philip Roy was called in consultation. It now developed upon questioning the patient that for the past nine months at least he must have been suffering from diabetes, as for that length of time he had been in the habit of drinking excessive quantities of water—a gallon or more a day. There was likewise a history of dryness of the throat and excessive urination.

The sugar was present in the proportion of 3½ per cent. and there was marked acidosis as shown both by urinary analysis and reduced carbon dioxide tension in the alveoli.

The operation was postponed and the patient placed by Dr. Roy on a very restricted diet (Allen method), which succeeded in causing the sugar in 48 hours to disappear.

Later on, however, it reappeared and continued to be present in proportion varying from ½ of 1 per cent., together with acidosis, and it was impossible to get it again to disappear completely.

In the meantime the mastoid condition was growing decidedly worse—as shown by an extension backward and downward of the swelling, with redness and tenderness and the patient was suffering very greatly with pain. In fact, on account of his suffering, he was anxious for immediate operation and because this was postponed he was on one occasion with difficulty kept from deserting the hospital. Patient showed marked prostration and weakness. Temperature ranged from 97 to 99; pulse 80 to 90.

Operation appearing to be urgently necessary was performed August 6, under ether anesthesia administered by Dr. Thos. Lowe.

The entire mastoid process was found to have broken down and had been converted into a soft, dark-colored, purulent debris. The osseous necrosis was very widespread, extending backward even into the occipital bone, requiring a supplementary horizontal incision backward through the soft parts, in order to eradicate all the carious material.

The patient made a good recovery from the operation and from that time the pain became less and his general condition better.

August 7, examination of urine showed sugar present; acetone negative. August 8, acetone and sugar both negative. From that time to his discharge from the hospital on August 14, sugar examination was made daily and showed either a very low percentage or none at all, and the acetone generally absent.

The patient followed at home the diet prescribed by Dr. Roy, under which he did well, the sugar finally disappearing completely.

The wound took on healthy granulation and repair, though slow, procecded gradually to a complete healing of the mastoid wound. He is at present able to take a fairly liberal diet.

This case presents certain clinical features that seem to bear out Kuhn's theory of the existence of a primary mastoid osteitis.

Kuhn, supported by Korner and others, based the contention of a special diabetic type of mastoid inflammation on the relatively early involvement of the mastoid in these cases, and also upon the rapid and extensive carious disintegration of bony structure and its gangrenous appearance, coinciding as a rule with proportionately slight symptoms on the part of the tympanic cavity.

My own patient had pain in the cervical region below the mastoid and severe unilateral headaches pointing to mastoid involvement for several weeks before there was any otorrhea or other decided symptoms of trouble in the tympanic cavity. At the operation, too, there was found to be present an extensive disintegration of bony substance which presented a marked gangrenous appearance. Furthermore, the aural discharge which was a late symptom and slight in comparison with the mastoid disease, ceased very promptly after the removal of the diseased bone.

To our mind, nevertheless, these facts are not sufficient to establish with certainty that the mastoiditis was a primary affection. It is always possible to have a slight suppurative condition of the middle ear, which, without causing perforation of the drum membrane and discharge, has nevertheless set up an infective process in the pneumatic cells of the mastoid apophysis. That the process should rapidly advance, producing extensive carious destruction of bone, is no doubt owing to the

fact that a favorable soil has been created by the diabetic dyscrasia.

A very interesting inquiry, suggested by our case, is whether or not the local condition could have been a factor in the causation of the diabetes. It was noted that while previous to the operation it was impossible to keep the urine free from sugar, immediately afterward under the same diet the sugar and acetone were promptly lessened and after a while completely disappeared.

As prolonged suppurative processes tend to bring about change in the hepatic cells, this may be possibly an explanation of the *modus operandi* in causing an increase in sugar. If we accept this theory as correct, we may look upon the anthrax, furuncles and gangrene, which are known to be so frequently associated with the diabetes, as being a possible cause, and not as they are generally considered the effect of the systemic disorder.

At any rate, when, as in the case which we have cited, there exists an extensive suppurative process affecting the osseous structures which shows no tendency to self-limitation but rather a marked inclination to progress, there need be no hesitation about undertaking operative intervention intended to remove the local disease—provided, of course, that the patient's condition is judged to be such that at least he will be able to survive the operation.

815 *Connecticut Avenue.*

DISCUSSION.

Dr. Philip S. Roy, Washington, D. C.: I would like to say a few words about diabetes in general from a historic point of view. Up till the time of Claud Bernard we practically knew nothing about the formation of sugar in the body. That was between 1840 and 1850. Almost up to that time it was claimed by all the best chemists that the animal body was not capable of producing chemical substances; that the body could handle them and get nourishment, but that it could not produce them. One of the most noted chemists at that time tried to find out how much fat was in fodder, and claimed there was just as much as the beef had after eating it. With Claud Bernard and others it soon was proven that the body could take in sugar and make fat, and take in protein and make sugar. So Bernard absolutely revolutionized our views on the subject of metabolism, so far as sugar in the human body was concerned. He found glycogen, the body starch. Glycogen has exactly the same formula as starch, and when you remove one molecule of water you bring it back to glucose, which is the sugar found in diabetic conditions.

Now, as regards diabetes: All the authorities have at last come back to the opinion that the ordinary chronic finding of sugar in the urine is due to pancreatic disease; that the other conditions are probably ephemeral. If you inject suprarenal in a person in sufficient quantity sugar will appear in the urine. That is in all likelihood due to the fact that the glycogen of the liver is forced out into the circulation for some reason, and that the percentage of sugar in the blood is raised above one-tenth of one per cent., and sugar, probably two-tenths of one per cent., is in the blood, and will appear in the urine. However, that is evanescent and will pass away. The only two other conditions that will produce diabetes mellitus are some disturbance of the pituitary and some disturbance of the central nervous system. But the pancreas is the organ involved in diabetes—the islands of Langerhans and the cells are all involved. There have been cases reported where no change was found in the pancreas, but they are very rare, and probably some mistake was made, or there may be exceptions.

In infections there certainly seems to be a lowering of the capacity of the body to handle carbohydrates. I remember some time ago a case was reported at the Medical Society where a man had an infected tooth; the tooth was removed and the diabetes was cured. Though the man thought he was reporting correctly, I knew at the time the report was not correct. But there are cases after operations where infections have occurred where a person has been able to handle carbohydrates better than before the infection was removed. They probably still have a damaged carbohydrate tolerance, but the tolerance has been lowered by the infection.

Acidosis has come to be a very common word, and we use it in a way that probably makes us feel we know all about it. The fact is, we know very little about it. But we do know this, that when people have acetone and diacetic acid in the urine and they have a low-

ered alveolar carbon dioxide tension in the lungs; that in most of those cases the alkalinity of the blood is lowered—the blood has not become acid by any means; if it became acid the person would not live an hour; it is just a relative term. Also we test it by the number of hydrogen ions in the blood. That is rather a difficult process, and the average man could not do it. But any man can make the tests for diacetic acid and lowered carbon dioxide. The simplest apparatus is the one gotten out by Hynson & Westcott.

Now as to the treatment in these cases. This case that Dr. Wells so kindly called me in on I felt was not a very good case to treat along the Allen method, sometimes called the starvation method. The man was in an awfully bad shape. I really hesitated to do anything in the way of reducing his food. But I put him on some whiskey and coffee for forty-eight hours, and all the sugar disappeared, and I was delighted with the result, but when I tried to find out what his carbohydrate tolerance was, by the time I got up to thirty grams of carbohydrate the sugar came back, but nothing like he had before I treated him, because he at first had three and a half per cent., and it came back to one per cent. I tried to reach a point where I could give him any carbohydrate, but I could not do it. I could feed him on proteins and fat and he would not have any sugar. It showed he had a tolerance for proteins, because in bad cases seven or eight of the amino acids formed from proteins are made into carbohydrates and sugar appears in the urine; in other words, the system is not capable of handling the carbohydrate radicals in the proteins, and they will show sugar without any carbohydrates at all. Claud Bernard showed that if he fed dogs with meats they had almost as much sugar in the liver as with starchy food. Therefore, I felt it was not safe to go on feeding that man from the Allen standpoint. I advised Dr. Wells to go on and operate. The alveolar air was thirty; the normal is thirty-five. It wasn't a bad case of acidosis at all. Dr. Wells operated, and the result he has told you. After the operation I then began in a few days to commence my Allen method of treatment again, and by the time he left the hospital he could handle fifty-seven grams of carbohydrate a day with one-tenth of one per cent. of sugar. That is a very small percentage. I advised him when he got home to see if he could not get rid of it entirely. I cut him down to a pint of cream a day, which has one thousand calories and only eighteen grams of carbohydartes, and some of the green vegetables, like spinach, and he immediately got rid of the sugar, and the last time I saw him he was taking about sixty or seventy grams of carbohydrates a day and plenty of fat and protein. The man was up to over two thousand calories a day, and had fattened and was looking in excellent condition.

This Allen method of treatment undoubtedly is the best ever offered—that is, to try systematically to arrive at the carbohydrate tolerance of the person. Some of them we can never arrive at. And in ten per cent. of the cases we can never cure the diabetes nor get the person free from sugar, no matter how rigid the diet. But usually in thirty-six hours, if we put the person on a little whiskey and coffee the sugar will go, and then after that put them on plenty of fat. Under certain conditions probably fat will make sugar, but very rarely—put them on plenty of fat, a reasonable amount of meat, and, if they will handle that, I will give them a pound of green vegetables. That fills up the stomach, and the fat and the protein give them their caloric value, and usually we can bring the average diabetic up to one hundred and fifty grams of carbohydrate a day and they will stay free from sugar. They do not stand fatigue; they must lead careful, orderly lives.

This case that Dr. Wells reports, it seems to me, is interesting in this way, that undoubtedly his carbohydrate tolerance was improved by Dr. Wells getting rid of the septic condition. I believe in every case where there is sepsis if the man has sugar, we ought to try to get rid of the septic condition, even if there is some danger on account of operating in a diabetic condition.

I did not test the alveolar carbon dioxide after the operation, but I am certain it went up after the operation. His blood pressure was about 130 systolic and 90 diastolic, showing that he had a fairly good tone in the arteries and heart when Dr. Wells operated on him.

Dr. William P. Carr, Washington, D. C.: This is a very interesting subject. It brings

up the whole subject of acidosis. Dr. Roy says we know a little about it, but there is a great deal more that we do not know about it. We had a discussion on it at the Medical Society. For a while they talked as if we had it pretty well cut and dried. I made the remark then that I thought there must be several varieties and causes, and finally we had to acknowledge we do not know very much about it.

I think we do know this, that the danger in operating in diabetes depends very much on the stage to which the disease has progressed. In the early stages an operation can be done pretty safely. I have operated on a number where the wounds would heal without any difficulty whatever, and the patients stand the operation apparently as well as anybody else. In the later stages, when they begin to have furuncles, carbuncles and gangrene, we have long recognized that it is a very dangerous condition to operate upon, and I think Dr. Wells and Dr. Roy probably saved this patient's life by the previous treatment before operation. I think that ought always to be done in any case that has any marked amount of sugar in the urine. I am pretty well satisfied, too, that infections do produce temporary glycosuria which cannot be a true diabetes. I reported a case a few years ago that I called a case of gall-stone diabetes. A woman had five per cent. of sugar in the urine. I operated on her for gall-stones, and in two weeks the sugar dropped down, without any special treatment, to two and a half per cent., and two or three months later the urine was normal, and she never had any more trouble. Dr. Ernest King told me that he had had a number of cases of prostatic disease with diabetes in which treatment of the diseased prostate apparently had cured the diabetes. I have seen one or two cases of large abscesses in different parts of the body where the patient had sugar in the urine, temporarily apparently, and when the abscess was opened and drained the sugar promptly disappeared.

I think that we have, perhaps, a large number of potential diabetics who are born with a partial disability in the handling of sugars, and that these patients, when they are subjected to any kind of severe strain, shock, or the debilitating effects of an infection, will show sugar in the urine, and that if in cases of that sort the focus of infection can be gotten rid of the diabetes will disappear. Allen seems to have shown that there are a number of people born with weak pancreatic function that will go on a great many years, losing that function more and more as they grow old, and that the eating of too much starch and sugar will increase the disability of the pancreas as it goes on, whereas, with a strict diet, it will recover to a great extent its original power of taking care of starch.

There are some cases, too, in which a pretty well marked diabetes will undergo spontaneous recovery. I had one case of that sort in Rockville. An old lady there apparently had diabetic gangrene of the foot. I thought there was no hope. I did not do anything for it. The foot got well and she got well and afterwards came into the George Washington Hospital and Dr. Shute operated on her for a cataract, and at the same time I operated on an epithelioma of the face near the eye, and she got well nicely from both operations and never had any more sugar in the urine, and yet it apparently at one time had gone on to the point of producing diabetic gangrene.

Dr. W. H. Huntington, Washington, D. C.: Dr. Wells and Dr. Roy are certainly to be congratulated upon the fortunate outcome in this case. As Dr. Carr said, diabetics are, of course, bad surgical risks, particularly when associated with any suppuration. In early cases of diabetes, as this case was, mastoiditis in the early stages can, of course, be temporized with, as Dr. Wells and Dr. Roy wisely did in this case, and will, of course, offer better surgical work and better results and lower mortality. But cases of diabetes, even in the later cases of cachexia, if they are unfortunate enough to develop a mastoiditis and do not seek aid, and get to the stage where they come in the class of emergency operations, have got to be operated on immediately, and in these cases I should say that we would be wise to use either nitrous oxide or local anesthesia, such as novocaine or cocaine. Mastoid operations can be performed under local anesthesia very nicely sometimes. Advanced pulmonary tuberculosis is supposed to be a contraindication to operative procedures, but they have been done under local anesthesia with very happy results.

I would like to ask Dr. Wells if he had an ophthalmoscopic examination made of the fundus?

Dr. Roy: The only drug I gave in this case was bicarbonate if soda for the acidosis. In most cases of diabetes in the Allen method I do not find it necessary to give anything for the acidosis of starvation. I think it is the general impression that there is a little increase in the acetone and diacetic acid by the starvation method. It will amount to nothing. As soon as you go back to carbohydrates it will disappear.

Dr. H. A. Fowler, Washington: I think this is an exceedingly interesting subject. The paper was exceedingly interesting to me, because at the present time I have a patient in the hospital with a right pyonephrosis, who has sugar in the urine. So the question comes up,—Are we justified in operating, and what preliminary treatment shall be carried out before operation, and what are the prospects of recovery and the effect on the glycosuria of removal of this pus sac?

We made an interesting observation in this patient. She had urine examinations on a number of occasions for the last three or four years, always showing the presence of sugar in the urine. At the time of our examination we were able to catheterize both ureters, but from the affected kidney the amount of pus was so great and the pus was so thick that we were unable to obtain any urine from that side, but the urine obtained from the normal side was perfectly clear, free from pus cells, and it did not contain any sugar. This observation was interesting because we did not know what the significance was. So, believing that it must be temporary, that is, a temporary absence of sugar from the urine, we repeated this examination, obtained at a later date a specimen from the normal kidney, showing normal urine, with a very high urea excretion, but containing sugar at the second examination. So the probabilities are that at the first examination there was no sugar excreted in the urine, although two days before examination the combined urine showed sugar.

This patient we have under treatment now somewhat along the lines suggested by the discussion and carried out in Dr. Wells' patient, and we propose the latter part of the week, as the amount of sugar has markedly decreased. to remove this kidney, and we hope to have as good a result as Dr. Wells had in his patient.

Dr. Wells (closing): In answer to Dr. Huntington, it would have been very interesting to make an opthalmoscopic examination, but we neglected to do so.

I was very glad indeed to get the opinions of Dr. Roy and Dr. Carr in favor of the theory that a septic condition in diabetes may have some causative effect in maintaining the diabetic condition. So far as I know, that view is not strongly put forward in the literature. Most of the advice you get is that in diabetes where suppuration is present you may look upon its presence as especially unfavorable and perhaps a bad risk for operation, but if we can come to the view that the suppurative condition has perhaps had something to do with keeping up the general condition, then, no matter how bad the suppurative condition, we ought to go ahead and operate, if the patient will survive the operation. In this case there is no doubt that the preliminary treatment had a great effect; it did reduce the sugar considerably; but it had come to the point where the sugar got no better; the local condition continually got worse, and, therefore, operation was absolutely indispensable. I consider the general result in our case is to a large extent due to the splendid dietetic management of the case both before and after operation by Dr. Roy.

Editorial.

Organization.

To the splendid appeal in this issue of our President, Dr. Stover, the Committee on Component County Societies wishes to add a few earnest words.

The war situation has shown most forcibly how necessary it is to have an active organization in each county.

The urgent work of the State Medical Committee on National Defense has been greatly aided in the well organized counties and hindered where organization is weak or absent.

No one can foretell how far this frightful war may go. Of one thing we are certain, and

that is that in order to be successful, this country must organize all of its resources.

Doctors are needed *now* for the army; more will be needed later; and it may come to the point where, in order to supply the essential medical men for the army, much individual sacrifice may be necessary.

The doctors of Virginia are patriotic, and will do their duty. All that can should go. Those that remain behind will have many additional burdens to bear.

The successful carrying out of our part in the war depends on organized effort and system.

The doctors of this State must, for patriotic reasons, if for no other, *at once* complete and strengthen their State and local organizations.

The committee stands ready to aid in every way.

Organized societies should meet promptly, see that every reputable doctor in the county is a member, and that all dues are paid up to date.

Those counties which have not yet organized are urged to call meetings *at once.*

There are about three local societies which have not obtained state charters. It is hoped that they will do so without delay.

The outlook for the future of the State Society is most encouraging. President Stover, through the laborious and productive work done by him in getting the license tax repealed, is deeply impressed with the vital necessity of extending and improving our organizations. The proposed changes in the Constitution have all been worked out satisfactorily by the Council and will be presented at the Roanoke meeting. That meeting promises to be successful in every respect.

A marked copy of this issue of the *Semi-Monthly* will be sent to practically every doctor in the State, the object being to stimulate renewed interest in the organization work.

For full information and assistance, write to the Committee, 109 College Place, Norfolk, Virginia.

SOUTHGATE LEIGH, M. D.,
Chairman.

The Medical Society of Virginia Meeting,

Which is scheduled for October 23-26, 1917, at Roanoke, is being brought actively to the attention of members through the Local Committee of Arrangements of the Roanoke Academy of Medicine. Already postals are being sent urging physicians to plan their work to attend. Let patients know you are going. "They'll be interested in knowing whether you are, or are not, progressive."

Some pleasing innovations are promised, especially for the first night. Those who contemplate reading papers must have titles in hands of the secretary, Dr. Paulus A. Irving, Farmville, Va., before September 15, if their papers are to be listed on the printed program.

Medical Men Still Needed.

Of the 90,000 estimated physicians of military age—between twenty-two and fifty-five years—in the United States and her colonies, fully 24,000 or perhaps more will be needed for military service. In case of a medical draft, this will mean that two of every nine physicians must serve, but due consideration will be given exemptions as in the case of army draft. It is also the desire of the committee that no community shall be left without a doctor, though public health nurses, in their work of educating in the prevention of disease, should greatly assist doctors, by reducing the number of sick to be treated. One thing which is thought to have reacted to the detriment of the committee to secure officers for the medical reserve corps is the statement as to the casualties in the medical department. These did not apply to doctors alone and are said to have been greatly exaggerated. Approximately only 5,000 of the 11,000 commissions offered doctors have been accepted.

By the end of July, Virginia had furnished approximately 180 physicians, but it is thought the State will be called upon for 200 to 300 physicians in all. Doctors from this country will be needed to help the French and British as well as for our own army. It is pointed out that a large number of psychiatrists and neurologists will be needed to examine troops before going abroad as well as behind the firing line in France, there being an especial shortage of physicians in this line.

A matter of interest to Virginians may be that, of 57 colonels in the medical corps of the regular U. S. Army, which is the highest

grade for a doctor, 13 are University of Virginia men. There seems always room at the top.

The Prince George Hospital Association

Was organized in Hopewell, Va., the latter part of July, and the following officers were elected: President, Dr. J. C. Bodow; vice-president, Dr. L. F. James; secretary-treasurer, C. T. Cockey. The directors are D. W. Brown, Dr. C. E. Bowles, W. I. Gilkerson, all of Hopewell and City Point, and Dr. J. W. Henson, of Richmond.

A committee was appointed to select several sites, to be submitted at the next meeting, for the location of the hospital. The association is to be incorporated in the maximum capital of $50,000, and contemplates constructing a hospital, to cost approximately $35,000, of 25 to 30 beds, which will be a semi-brick, fireproof building of three stories with elevators, and will have thoroughly modern operating rooms. The hospital will be for the benefit of Hopewell and vicinity and is backed by some of the best citizens in the community. Other members of the Association are: H. L. Tansil and Drs. B. F. Busteed, L. P. Milligan, S. B. Gill, G. H. Reese, W. W. Cleere, J. H. Hargrave and S. B. Perry, of Hopewell and City Point, and Mr. B. A. Ruffin, Richmond.

Medical College of Virginia Base Hospital.

There have been a large number of applications from physicians throughout Virginia and neighboring states for positions on the medical staff for this base hospital, and appointments will shortly be made. Owing to the fact that Dr. Stuart McGuire, surgeon in charge, has been in Washington on official business so much of late, Dr. J. F. Geisinger has been appointed acting adjutant in charge of the details of organization and will probably continue in this position until he becomes a member of the surgical staff of the base hospital.

Dr. James H. Smith, Richmond, has been appointed for the permanent position of adjutant and will be sent to Ft. Oglethorpe for a course of special training lasting two or three months.

Dr. C. H. Lewis will be placed in charge of the ambulance company, with the rank of captain. This company will be organized under the direction of Dr. McGuire, but is an independent organization and will, in all likelihood, be sent to a different locality when it is finally ordered abroad. It will consist of a captain, four lieutenants, and an enlisted personel of 120 men.

University of Virginia Base Hospital.

Dr. William H. Goodwin, director of this base hospital, which has been enlarged from 500 to 1,000 bed capacity, has announced the completed medical staff, all graduates of the Medical School of the University of Virginia, as follows:

Chief of surgical section, Dr. Lomax Gwathmey; chief of medical section, Dr. Hugh T. Nelson; staff surgeons, Dr. Charles S. Venable, Dr. John W. Burke, Dr. Karl Osterhaus, Dr. Gordon L. Todd, Dr. Arlington C. Jones, Dr. Walter E. Scott, Dr. C. A. Woodard, Dr. Joseph S. Hume, Dr. Leroy W. Hyde, Dr. Minor C. Lile, Dr. Kyle B. Steele, Dr. Robert E. Pound, Dr. George Y. Gillespie, and Dr. Heman Lawrence Dowd; staff physicians, Dr. John D. Thomas, Dr. Dan H. Witt, Dr. John D. Barnwell, Dr. Edward C. Ashby and Dr. John B. Setzler; roentgenologist, Dr. Claude C. Caylor; laboratory staff, Dr. Lucius G. Gage and Dr. Edward B. Broocks; urologist, Dr. John R. Coryell; dentists, Dr. George C. Parry and Dr. Walter E. Miller; adjutant, Dr. Herbert F. Jackson; chaplain, Rev. Beverley D. Tucker.

Nurses For Base Hospitals.

As only Red Cross nurses could be accepted for positions with base hospitals, it was necessary to have some ruling by which nurses could be obtained for the University of Virginia and Medical College of Virginia as well as some other base hospitals. Largely through the efforts of Dr. McGuire, in Wasihngton, the requirements were so broadened as to accept graduates of all schools which can demonstrate that their courses are sufficiently thorough to qualify them for such service, which stipulation is made without relation to the size of the hospital. This greatly facilitates the matter of obtaining the requisite number of nurses for service abroad. Miss Evelyn Edmonds, St. Luke's Hospital, Richmond, is temporarily act-

ing as chief nurse of the Medical College of Virginia base hospital, and Miss Margaret B. Cowling, superintendent of nurses at University of Virginia Hospital, is chief nurse for the unit from that school.

Married—

Dr. Thomas Griffin Hardy and Miss Elizabeth Parker Jarman, both of Farmville, Va., July 28.

Dr. Charles Wallace Sale, Fredericksburg, Va., and Miss Lelia May Perrin, of "French Hay," near Ashland, Va., August 4.

Dr. Daniel Trigg, Surgeon U. S. Navy, but formerly of Abingdon, Va., and Miss Mary Balmer, Hampton, Va., July 26.

Asst. Surgeon Dozier Gibbs, U. S. Navy, and Mrs. Loula May Lacy, Nashville, Tenn., in Portsmouth, Va., July 21.

Dr. Edward Allen Brown, U. S. Navy, but recently interne at Norfolk-Protestant Hospital, and Miss Lucille Dodson, Norfolk, Va., July 21.

Dr. Samuel B. Nickels, a member of the 1917 class of the Medical College of Virginia, and Miss Louise Parsons, recently of this city, July 28. Dr. Nickels is located at Big Stone Gap, Va., where he is connected with one of the coal companies of that section.

Dr. L. H. Justis,

Who was operated upon in Roanoke, Va., about the middle of July, for gall bladder trouble and appendicitis, is doing well.

Dr. A. S. Kemper,

Pt. Republic, Va., had the misfortune to have his barn damaged by lightning early this month.

Dr. J. F. Geisinger

Spoke on the "Medical College of Virginia Base Hospital" at a meeting of the Richmond Nurses' Club, August 2.

New Medical Examiner for Drafted Men.

Upon the resignation of Dr. R. A. Martin, owing to his duties as health officer of Petersburg, Va., Dr. W. H. Crockford, of that place, was appointed medical examiner of the board of draft exemption for Petersburg and Dinwiddie County. Six members of the Petersburg Medical Faculty were appointed to assist Dr. Crockford in the 786 examinations to be made in that district.

Warning Against Poliomyelitis.

Thirty cases of infantile paralysis were reported to the State Board of Health during July from seven counties and one city. While the total number for the year to this date is less than in 1916, there is still need for vigilance on the part of physicians and parents to avoid any further spread of the disease. There have been approximately 22 cases reported from Rockingham County. Owing to the fact that the number of cases in that county is so far in excess of reports from other counties, the State Board of Health advises that children should not enter or leave Rockingham County.

Dr. Samuel Saunders, Jr.,

Formerly of this State, but now with the U. S. Public Health Service, has again been transferred and is now in Louisville, Ky., his address being P. O. box 533.

Wassermann Examinations Free.

Beginning June of this year, the Health Department of Lynchburg, Va., makes Wassermann blood examinations in its health laboratory free of cost for citizens of that place. Examinations are made on Thursdays and reports are confined strictly to physicians. This is the first public health laboratory in Virginia, either state or municipal, to do this work.

Hospital For Crippled Children.

Arkansas and Mississippi will join with Tennessee in sharing the first cost of what is to be known as the Tri-State Hospital for Crippled Children and is to be located in or near Memphis. Memphis will assume $25,000 on the cost of the institution. It is estimated that there are nearly 10,000 crippled children in these three states who are dependent.

Dr. and Mrs. B. Carroll Henson,

Big Stone Gap, Va., recently visited his mother in Louisa County, this State.

Dr. Jos. Thos. Davis,

North Emporia, Va., has gone to Hot Springs, Ark., for a short stay.

Dr. William P. McGuire,

Winchester, Va., is spending sometime with a daughter in Edgartown, Mass.

Roanoke Doctors Attend Meeting.

Drs. S. S. Gale and J. F. Armentrout, of Roanoke, Va., attended the regular meeting of the Augusta County Medical Association in Waynesboro, Va., August 1, and read papers by invitation.

Other Virginia Doctors Who Have Entered the Service.

Names of Virginia doctors, other than those already published, who have volunteered for service in one of the Government services are: Drs. J. Frank Stover, Crabbottom; Clyde L. Bailey, Sutherlin; Chas. Wallace Sale, Fredericksburg; W. F. Merchant, Manassas; John A. Rollings, Roda; Jas. C. Doughty, Onancock; J. N. Elder, Hopewell; J. Wood Jordan, Ashland; Chas. V. Carrington and I. H. Goldman, Richmond; Percy Elisha Duggins, Norfolk; H. H. Howlett, Walkerton; Percy G. Hamlin, of this State, but who has recently been an interne at the Philadelphia General Hospital, and Clarence J. D'Alton, formerly of Petersburg, but more recently of New York City.

Dr. B. L. Taliaferro,

Catawba Sanatorium, Va., enjoyed a much needed rest at Mountain Lake, Va., the latter part of July.

Dr. A. M. Brent

Has returned to his home at Heathsville, Va., after accompanying a patient to a Baltimore hospital.

Dr. Frederick Gaertner,

Pittsburgh, Pa., announces his removal to 222 North Negley avenue, East End, that city.

Dr. and Mrs. E. J. Nixon,

Of Petersburg, Va., with some friends, are on an automobile trip through Maryland and Pennsylvania.

Ambulance For Virginia Regiment.

People of the Eastern Shore of Virginia have raised $3,038 for an ambulance for Company H, Fourth Virginia Regiment. All money in excess of the cost of the ambulance, will be used to endow an operating room in a French Hospital.

Richmond Doctors Attend Wedding.

Drs. O. C. Brunk, Beverley Tucker, McCaw Tompkins and A. M. Willis, of Richmond, attended the Hardy-Jarman wedding in Farmville, Va., the latter part of July.

Dr. B. H. Kyle,

Lynchburg, Va., was registered at Natural Bridge, Va., the latter part of July.

Dr. Thos. J. Stanley,

Bracket, Va., was a recent visitor in this city, having brought a patient to a local hospital.

Surgeon H. S. Cumming,

Of the U. S. Public Health Service, was on July 12 designated as one of the members of the Coast Guard Retiring Board, at the Government Hospital for Insane.

Surgeon Carroll Fox was also designated to this work.

Tetanus Germs Found On Court Plaster.

The Department of Justice, after investigating reported sales of poison plasters in various sections of the United States, without expressing a view as to how the plasters became infected, states that sone samples analyzed have been shown to contain tetanus germs. The public is, therefore, cautioned against purchasing this remedy except from approved sources, the warning being particularly directed against purchasing in small packages from street peddlers and vendors.

Large Number of Babies Cared For.

Dr. R. K. Flannagan, chief health officer, reports that 500 babies were cared for at the milk depot at 15 West Clay street, this city, during the first month it was opened.

Dr. W. F. Drewry,

Petersburg, Va., was appointed by Governor Stuart a member of the executive committee of the Virginia civilian committee on training camp activities, which held its first meeting in that city July 25.

Dr. E. S. Lester,

Witt, Va., has resigned as medical examiner for the board of draft exemption for the Danville district, as Danville, which forms a separate exemption district, is not allied with the magisterial district in which Dr. Lester lives.

Draft Board Substitutes.

Provost Marshall General Crowder made the following substitutions for district draft exemption board members previously appointed: Dr. George Thomas, Wilmington, N. C., for Dr. Chas. O'H. Laughinghouse, Greenville, Eastern District, N. C.; Dr. W. P. Beall, Greensboro, N. C., for Dr. John W. Long, Greensboro, Western District, N. C., and Dr. John G. O'Connor, Knoxville, Tenn., for Dr. John O'Brien, Eastern District, Tennessee.

Dr. and Mrs. James D. Pasco,

Jacksonville, Fla., have been guests of his sister in Harrisonburg, Va. Dr. Pasco was graduated from the University of Virginia in 1906.

Dr. Joseph Shanks,

Salem, Va., is a guest at Crockett Springs, Virginia.

On Mission To Italy.

Dr. Thos. W. Huntington, San Francisco, president of the American Surgical Association, and Dr. Victor G. Heiser, U. S. Public Health Service, were members of the special Red Cross mission recently sent to Italy.

The National Board of Medical Examiners

Held its second examination in Washington, D. C., June 13 to 21. There were twenty-four qualified candidates, twelve of whom appeared for examination, the others having been ordered into active duty between the time of their application and the date of the examination. Of this number, nine passed.

The next examination will be held in Chicago, October 10 to 18. The regular corps of the army and navy may be entered by successful candidates, without further professional examination, providing they meet the adaptability and physical requirements. There will also be an examination in New York City in the early part of December.

Growth of the American Red Cross.

To give an idea of the growth of the American Red Cross and the work accomplished by it, we quote from one of its bulletins: "To handle the business of the Red Cross a year ago there were 75 employees at Washington headquarters; today there are 700 paid employees and 61 full-time volunteers. The number of members of the Red Cross on August 1, 1916, was 206,077. On July 27, 1917, there were 2,547,412 members. Over 3,000 pieces of mail come into Red Cross headquarters every day and each must receive attention."

Total appropriations of the War Council up to and including July 31 amounted to $6,175,752, which will be used for work in France, in Europe in general, and for work in the United States.

Dr. W. A. Brumfield,

Since being made Assistant Commissioner of Health of Virginia, has moved his home from Lynchburg to 1110 Barton Avenue, this city.

Wanted—Physician to take charge of practice in iron ore mines; comfortable house, delightful climate, good salary. Apply to B. Ryland Hudnall, M. D., Low Moor, Va.

Obituary Record.

Dr. Jesse Barr Webb,

Lodi, Va., and a prominent physician in that section, died suddenly on the night of July 31, as the result of sunstroke. He was born in Washington County, Va., in March, 1878, and graduated from the Medical Department of the University of the South, Sewanee, Tenn., in 1907. He was a member of the State and local medical societies. His wife survives him.

Dr. Dwight Gordon Smith,

Washington, D. C., died July 31, at the New Emergency Hospital, in that city, after an illness of more than a year. He was 44 years of age and had graduated in medicine from George Washington University Medical School, Washington, in 1903. His widow survives him.

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Original Communications.

SURGERY OF THE PROSTATE.*

By R. L. PAYNE, JR., M. D., F. A. C. S., Norfolk, Va.
Surgeon St. Vincent's Hospital.

In a series of 4,825 individuals subjected to surgical operations performed at my hands up to the present time, I find that there have been 55 operations on the prostate gland. All of these operations were undertaken for the relief of urinary retention due directly to a pathological condition of the prostate.

In 42 cases the lesions were classified as adenomatous enlargement, in 13 cases as small hard fibrous glands, 4 cases were found to be carcinoma, while one case proved to be of the fibrous contracture type described by Lewis.

The ages of these patients varied from 46 to 88 years, and 16 cases, or 29½ per cent. of the entire series, were brought to us, from out of the city, suffering with acute retention and active infection, which necessitated immediate preliminary supra-pubic drainage for several days or longer before removal of the prostate could be safely undertaken.

Out of the entire series of 55 cases, there was only one post-operative hospital death, this occurring in an old negro, age 80, who died from pneumonia on the ninth day.

One of the cancer cases died from renal infection at his home 8 weeks after operation, while two of the cancer cases lived 16 and 18 months, respectively. One of these cases was relieved of all bladder symptoms up to 3 months before death, while the other case had obstructive symptoms to return 9 months after operation and died 7 months later. One cancer case, diagnosed microscopically in the centre of one removed lobe, is now living—3 years and 9 months after operation. We believe from our experience and that of other surgeons that death in these cancer cases is always due to renal infection resulting from the recurrent prostatic obstruction, and rarely, if ever, from metastases.

With reference to other complications, two cases were associated with calculi, which were removed at the time of the operation. One case developed a stone in the bladder about two months after operation, which was crushed and removed by another surgeon and the patient is now living at the age of 77. Two patients left the hospital at about the fifth week with small supra-pubic fistulæ, which subsequently healed. It is to be recorded that the post-operative stone case and the two discharged with fistulæ occurred in my early cases before we began the use of hydrochloric acid for irrigation. One cancer case had a very severe secondary hemorrhage, which was controlled by cutting the wound sutures and packing the whole bladder cavity tightly with iodoform gauze. There were four cases complicated by abscess formation which interfered somewhat with the ease of enucleation.

I am inclined to feel that my low primary mortality of one case in 55 is probably due to the fact that I have never practiced continuous irrigation after operation in my cases nor in a single instance made use of the in-dwelling catheter. Continuous irrigation is not only a marked hindrance to clotting in the prostatic cavity, a condition so favorable to healing, but has the additional draw-back of obscuring the actual amount of bleeding which may terminate seriously. The in-dwelling catheter is not only a source of infection, but usually produces vesical and sphincter spasm, and this straining could readily force clots out of the local veins into the general circulation with resulting fatal embolism. In the last two years the trend of prostatic surgeons has been to practice less and less post-operative manipu-

*Read by invitation before the Southwestern Virginia Medical Society, at Pulaski, Va., June 28, 1917.

lations in the bladder, and some operators have even come to where they have discarded the use of all irrigations and catheters. It seems to the writer, however, that the middle of the road is a better course, and one or two daily irrigations, of which I shall speak later, is the safer and better routine to follow. In further support of the above ideas, I find in studying the recent mortality reports on prostatectomy that many of the primary deaths are recorded as due to hemorrhage, embolism or embolic pneumonia.

The operative method employed has been the supra-pubic, transvesical approach in every case and the intra-urethral enucleation in all cases of simple adenoma or cancer. The usual mid-line incision has been employed with the exception that we always go through one or the other rectus instead of between them, believing that the nutrition of muscle is more favorable to early healing of the fistula than one in the dense mid-line fascia.

The peritoneum is carefully pushed upward, care being taken not to disturb the space of Retzius, and the top of the bladder is grasped with two towel clamps, which we find more satisfactory than the time-honored custom of traction sutures. The bladder is then opened between these clamps with a sharp knife and especial care is taken to make a clean cut of the entire opening desired, rather than to tear the bladder walls by forceful retraction. In this connection, it should be added that we never practice preliminary distention of the bladder before cystotomy, believing that this procedure is not only conducive to infection but entirely unnecessary.

The adenoma are then enucleated by striking the line of cleavage first in the roof or lateral walls of the urethra. This part of the operation is extremely simple after one has become familiar with the procedure and has acquired the educated touch which will permit him to adhere strictly to the hypertrophic lobe rather than getting into the surrounding prostatic tissue which has been thinned out and compressed by the circumscribed glandular and fibrous over-growth.

This part of the operation is the step that gives the inexperienced surgeon the greatest difficulty and in reality should only consume from two to seven minutes in the ordinary case of enlarged prostate. There is no such thing as a true fibrous capsule, surgically speaking, in these cases. The enlargement begins within the glandular structure and the so-called capsule is nothing more or less than compressed prostatic tissue forced outward and surrounded anteriorly by the internal sphincter of the bladder. The ejaculatory ducts also lie anteriorly, entering the floor of the prostatic urethra in front of the glandular over-growth which enlarged backward into the bladder. The internal sphincter and ejaculatory ducts are therefore never injured in a properly executed enucleation.

I have not had a single instance of incontinence occur in the cases herein reported.

Early in my surgical career I find records in which forty minutes were consumed before completing the enucleation, but since acquiring more experience one is surprised at the short time and ease with which enucleation can be completed. After the above points are discovered, so to speak, prostatectomy becomes simple, and I never see an operator today sweating over a prostate, changing hands, trying different sides of the table, becoming exhausted and calling for help, but that I realize he either doesn't know what he is doing or has "gotten in" wrong.

In removing the small, hard fibrous gland, our technic is radically different, for here there is practically no circumscribed growth and a line of cleavage is rarely found. In almost every instance a cutting instrument is needed, and we have met this condition by the operator changing his position to the left of the patient, introducing the fingers of the left hand into the rectum and with the more dextrous right the hard fibrous tissue is cut away with long blunt scissors, while the rectal fingers accurately push the gland against the cutting instrument. In my first cases I endeavored to remove all of the dense tissue, but later experience has taught that the removal of a large V-shaped piece of tissue is sufficient. This excision should extend well out to each lateral wall of the urethra and posteriorly to the recto-pelvic fascia.

Immediately following the enucleation of adenoma or the removal of a hard fibrous obstruction, the cavity is packed with one large dry gauze pad and this is firmly pressed into the site of the enucleation for several minutes. This pad is then removed and another pressed and held tightly in the cavity until all oozing is sufficiently controlled. While the pad is be-

ing used, it will well repay the operator to stand aside and allow five minutes by the clock to pass, for there is no better method of controlling venous oozing, and I consider this method far superior to hot irrigations or any of the other means advised in these cases.

We are particularly careful to satisfy ourselves that the bleeding has checked, and then a cigarette drain, three-fourths of an inch in diameter, with a large fluffed end, is inserted into the prostatic cavity. If the fluffed end is properly placed, this will not only favor clotting, but further check any tendency for oozing. At one time we practiced suturing this drain into the prostatic cavity, and have likewise tried the Caspar pack with a string coming out of the urethra and supra-pubic wound, but have found that these complicate the technic somewhat and are entirely unnecesssary. In cancer cases where bleeding occurs, the Caspar pack is to be highly recommended.

After placing the cigarette drain, the bladder and abdominal incisions are sutured up to the drain.

I consider the post-operative care of these cases to be two-thirds of the battle, and the routine employed by us for the past six years without variation, is as follows:

One quart of plain warm water is given per rectum immediately upon return to bed, and one pint every four hours thereafter. Sparteine sulphate, one or two grains, is given hypodermically every four hours, these to be continued for one or more days until the patient is taking liquids by mouth freely and we are entirely satisfied with the renal secretion. At the end of forty-eight hours, the cigarette drain is removed, and the bladder is then irrigated twice daily through the supra-pubic fistula with a solution of hydrochloric acid.

The use of hydrochloric acid began with us about six years ago when a woman, operated upon for multiple papilloma, developed a phosphatic incrustation of her entire bladder and wound margins which felt like coarse sand-paper and absolutely prevented all tendency for healing. Almost everything was tried and finally we began to experiment with hydrochloric acid introduced into the bladder in strengths, first of 1-1000, and finally 1-250, with the result that the incrustation quickly cleared up and healing immediately followed.

For the prostatic cases we begin our irrigations with a solution of 1-500 and, if the urine and dressings have any tendency to become ammoniacal, the strength is increased down to 1-250. Especial care is taken not to disturb or punch into the prostatic cavity and when the supra-pubic fistula becomes too small to admit a short two-way irrigating catheter, the same instrument is then introduced carefully and gently through the urethra and the irrigation continued once daily until the patient is discharged. When the urethral irrigations are begun, one must be careful not to over-distend the bladder lest this tends to keep open the supra-pubic fistula.

An alkaline bladder is not only abnormal but accompanies and conduces to infection. In almost every case I believe these complications can be effectually prevented by hydrochloric irrigations and our cases generally close up dry around the fifteenth day, while several under this regime have healed on the ninth and tenth days.

Bacteriologically, we have found that a 1-500 hydrochloric acid solution will inhibit the growth of the streptococcus and it certainly produces some inhibitive action on the colon groups, for we have not seen a single case of bladder infection since beginning the use of this irrigation.

After reading Caulk's and Hagner's papers on the use of Bulgarian bacilli we tried this method on three cases, but regret to say that the results did not compare with those obtained by the irrigations of hydrochloric acid.

It is to be added that we always administer by mouth urotropin combined with acid sodium phosphate, this to be kept up for several weeks unless the patient shows the usual signs of intolerance, and when there is a sluggish renal secretion some diuretic is to be added, but the sparteine usually takes care of this phase of the case if we happen to have an active preparation.

Since the phenolphthalein functional test was discovered, we have used it routinely in every case except those coming in with acute retention, which could be only relieved by an immediate cystotomy. Concerning the prognostic value of this test, I am not prepared to make a statement, but, so far, we are disposed to put more dependence on the quantity

and specific gravity of the urine in estimating the renal function.

Of more importance than any other single factor in operating on these cases is the question of an anaesthetic. I am convinced that ether or chloroform should never be given these cases, and for the past six years we have handled these patients safely with nitrous-oxide or by local anaesthesia without any inhalation anaesthetic.

Twenty-one of the series were operated under ether, with one death on the ninth day from pneumonia. 26 were given nitrous-oxide, and eight were operated upon with local novocaine anaesthesia without any fatality or pulmonary complications. It is further to be admitted that nitrous-oxide possesses some potential dangers, and since most of these cases have a high grade of arterio-sclerosis, weak myocardia and the additional tendency to hypostatic pulmonary congestion, I am about convinced that removal of enlarged prostates *under local anaesthesia gives the greatest margin of safety* and is the method to be preferred. It is now a well established fact that this operation can be efficiently and painlessly performed under local novocaine infiltration.

In conclusion, I believe that the greatest contributing factor to mortality in these cases is the procrastination exercised by the family doctor or the patient in delaying the necessary operation. The best time for surgery in these cases is usually when the lesion is first discovered. Waiting for nocturnal frequency to become sleep-disturbing or for a definite amount of residual urine is no more than courting disaster, while the inauguration of catheter life is a professional sin of commission which should never be condoned.

To support this assertion I can best quote the vital statistics of Squier: "Fifty per cent. of unoperated patients will die within five years from the onset of obstructive symptoms *where catheter life is not necessary.* The beginning of catheter life shortens this expectancy of life almost 50 per cent. and increases the mortality to 66 2-3 per cent. within the shortened period."

They say money talks. Perhaps that is why a doctor examines a patient's tongue first thing.—*Exchange.*

OPERATIONS UPON THE ANUS AND RECTUM—STANDARDIZATION OF THE SURGEON).

By G. PAUL LaROQUE, M. D., F. A. C. S.,
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Within a period ending December 31, 1916, the writer performed the following operations upon patients for diseases of the anus and rectum:

Removal of hemorrhoids	54
Opening, curetting and packing fistula	16
Opening and drainage of ischio-rectal abscess	12
Removal of fissure and ulcer	9
Repair of recto-vaginal fistula (One patient operated upon twice.)	4
Removal of papilloma of anus	1
Excision of piece of cancer of rectum (For microscopic examination.)	1
Dilatation of stricture of rectum	1
Division and dilatation of imperforate anus	1
Inguinal colostomy	3
Opening and drainage of suppurating dermoid cyst	1
Divulsion of sphincter	3

In addition to these, the following operations were performed at the same time upon the vagina and abdomen upon the same patients requiring work about the anus and rectum:

D. and C. of uterus	14
Perineorrhaphy	10
Trachelorrhaphy	6
Excision of urethral caruncle	1
Removal of uterine polyp	1
Suspension of uterus	10
Hysterectomy (complete)	2
Removal of ovaries	4
Appendectomy	13
Hernia repair	3
Femoral	1
Inguinal	2
Removal of gall stones and drainage bile tract	1
Removal of lipoma of thigh	1

All our patients are private patients referred by their attending physicians. The diagnosis has usually been made by the attending physi-

cian. Every case is carefully studied with reference to the clinical history and the findings upon local examinations. We direct especial attention to the fact that a large percentage of rectal and anal lesions occur in combination with each other and, whereas the patient generally complains of "piles," whatever may be the lesion, there may be discovered also fissure, fistula, hemorrhoids or ischio-rectal abscess, two, three or even four lesions combined in the same patient at the same time. So-called attacks of "piles" (as expressed by the patient) in our experience have uniformly represented exacerbations of symptoms due to inflammation.

Not only are different types of rectal pathology frequently associated with each other in the same patient at the same time, but rectal diseases are sufficiently often accompanied by urinary symptoms in both sexes, and have occurred with such frequency in association with pelvic disease in women, that surgeons who restrict their field of surgery to one of these three "specialties" are likely to leave patients with considerable pathology necessitating a second operation, whereas a proper comprehension of the relation to each other of these three fields—proctology, gynecology and urology,—is apt to result in general surgery, in which broad field the patient is more likely to receive a complete cure at one sitting. A considerable number of cases in this group had previously been in the hands of restricted workers in urology, gynecology or proctology. In many cases the patients and their friends have expressed sincere regret and in a few cases legitimate disgust at having been submitted to prolonged rectal treatment and operation when all of the pathology might have been corrected at one sitting by a general surgeon with a single confinement in the hospital at a minimum expense of time, suffering and money.

Of the 82 patients in this report, 34 were women, and of these 34 women with rectal disease, 20 also needed operation upon the vagina and abdomen. Of 309 women operated upon for abdominal and vaginal disease, 23 also required operations upon the rectum and anus. This estimate of my own personal work indicates that of all the women needing operation for pelvic and vaginal disease, about 7 per cent. of them require also operations upon the rectum and anus, and of all the women requiring operations for disease of the rectum and anus, about 58 per cent. of them require operation for disease of the vagina and pelvic organs.

In all of our work we have followed standard practices of diagnosis and treatment. We have avoided the temptation to originate untried procedures. In only one case have we experimented, and in this case, operated upon for hemorrhoids under a local anaesthetic, we yielded to the temptation to repair a lacerated perineum which was so satisfactorily anaesthetized. This we did successfully, the patient feeling no pain during the perineorrhaphy until the upper stitch was placed in the mucous membrane of the vagina.

We have treated hemorrhoids and fissure by excision and suture according to the method of Pilcher; in some we have used only the clamp and cautery; in others, we have used excision, suture, and cautery all together to avoid any possibility of failure of union or of bleeding; and in a few we have excised the pile bearing area according to the method of Whitehead.

The proper conception of the pathology of hemorrhoids as distinguished from dilated veins is scarcely consistent with the belief that "piles" come and go either spontaneously or through local or systemic treatment, and leaves little room for the belief that true hemorrhoids, namely, dilated, thickened, elongated and tortuous veins, can be cured by any other method than removal of the veins.

For fistula in ano we have in most cases divided the bridge of tissue between the two openings and packed the cavity. Ischio-rectal abscesses have been opened and packed, avoiding division of the sphincter muscle.

Concerning local anaesthesia, we are firmly convinced that the operation for the cure of hemorrhoids of all kinds, fissure and fistula in ano, can be completely and painlessly operated upon in all but "chicken hearted" adults under the anaesthesia secured through the proper injection of one per cent. solution of quinine and urea hydrochloride. We have employed this exclusively in all patients not complicated by abscess and not needing abdominal or vaginal work. With this local anaesthetic

we have performed operations in 31 of the 54 cases of hemorrhoids, six of the 14 cases of fistula, two of the nine cases of fissure, and two of the 11 cases of ischio-rectal abscesses. We did not secure complete anaesthesia in the presence of the abscesses, but for hemorrhoids and fistula, in our experience, a local anaesthetic is perfectly satisfactory and the only complaint made by the patients during operation is the cramped position of the legs held up on the table and sometimes a desire to defecate while traction is being made on the bowel.

All the case records are abstracted and in printed form, and will gladly be supplied upon request. Many of the easier cases have been operated upon in the office without having to go to bed at all. A few stayed in bed over night, and no patient operated upon under a local anaesthetic solely for rectal and anal disease has in our experience been in bed longer than 36 hours.

It requires 10 days or two weeks for the wounds to heal with the quinine and urea anaesthetic. As a rule no complaint has been made of pain following the operation for three to five days, during which time the bowels have been moved and the post-operative soreness has nearly disappeared. Post-operative infection has been surprisingly uncommon considering the impossibility of disinfecting the field of operation, though a few cases have occurred.

Of the three cases of malformation, one was imperforate anus, one imperforate rectum, and one a failure of union of the colon at the juncture of the splenic and descending portions. The latter was an interesting specimen. We operated upon a two day's old child for imperforate rectum, doing an ordinary inguinal colostomy on the left side but failed to find the sigmoid. After closing the left side incision, we made an inguinal colostomy on the right side and anastomosed the dilated caecum to the abdominal wall. Ten days later at autopsy we discovered the unusual anomaly of failure of union on the part of the colon at the juncture of the splenic and descending portions.

A case of imperforate rectum succumbed to starvation two weeks after left inguinal colostomy. The case of imperforate anus was immediately and permanently cured by puncture of the septum with a haemostat and dilation daily with the little finger.

One case of recto-vaginal fistula had to be operated upon twice. This case was complicated by syphilitic stricture and upon discharge still had a fistulous opening about the size of a small lead pencil as compared to an opening three inches in length when she came for operation. On account of her general condition, having had three operations within six weeks, we concluded to wait several months to close the remaining small opening. She did not return and we have never known whether she was operated upon by someone else or whether the small opening closed spontaneously.

One post-anal dermoid cyst with pilonidal sinus had been previously operated upon by a physician for fistula in ano. I operated the second time under local anaesthetic, curetting, cauterizing and packing the large infected cyst cavity. This case was operated upon in another town. I learned afterward that the cavity never completely closed and the patient died of heart and kidney disease.

The single case of cancer of the rectum here recorded also had hemorrhoids and fistula. Proctoscopic examination revealed a growth in the rectum. A small piece of this was excised and found to be highly malignant adenocarcinoma. No operation was performed.

501 *East Grace Street.*

A REFERAT ON TRENCH NEPHRITIS.*

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This review has been undertaken at the request of Professor, now Major, Hugh H. Young, and being deemed of timely interest, is published here.

Trench nephritis, which is assuming alarming proportions in the present war, has only one parallel in military history, namely, the American Civil War. Both in the Civil War and in the present European War, trench nephritis is confined to soldiers who have spent long periods of time in wet trenches. It is interesting to note that most of the cases occur among the British troops. There are a few cases reported from the French side, but very

*From the James Buchanan Brady Urological Institute, Baltimore.

few are known to exist in the Belgian army or among the central allies. The most important work on the subject is that by W. Langdon Brown and R. L. Mackenzie Wallis. A review of the main literature on the subject shows that trench nephritis is not a new disease, but is a true acute nephritis, as shown by clinical, chemical and histological evidence. Various etiological factors have been mentioned in connection with it, the most important of which are as follows:

(1) Exposure; (2) contaminated water supply; (3) lead poisoning from tin cans and foods; (4) unwholesome diet, especially a lack of fresh vegetables; (5) suppressed scarlet fever; (6) a sequel of anti-typhoid inoculation; (7) a sequel of dysentery and typhoid; (8) alcoholism; (9) deliberate swallowing of cantharides or chromic acid by soldiers in order to avoid further military service.

As most of these cases recover, an extensive pathological study of the condition is lacking. In regard to symptoms, various premonitory signs or symptoms are mentioned, the most common of which are (1) bronchitis, (2) fever, and (3) abdominal pain and vomiting. The commonest symptoms and signs of well-developed disease are as follows: œdema in 97 per cent.; headache, 77 per cent.; dyspnœa, 76 per cent.; pains in the back, 60 per cent.; cough, 51 per cent.; sore throat, 27 per cent.; vomiting, 24 per cent.; eye changes, 18 per cent.; diarrhœa, 16 per cent.; nausea, 12 per cent.; convulsions, 4 per cent. The disease is chemically characterized by a very low diastase content of the urine. The diastase content of the urine forms a very good index of the progress of the condition and also of the prognosis. No case is considered perfectly recovered unless the diastase reaction returns to normal.

The most important experimental work on the subject is that of Mackenzie Wallis and points to an infectious origin. There is, however, no evidence of a recognizable bacterial infection either in the blood or urine, and it is supposed that the disease is produced by a filterable organism. Although the disease has not been transmitted to animals, experiments demonstrate that a definite illness can be produced in rabbits and monkeys, commencing 8 days after the injection of urine in acute cases, and in some with a fatal termination on the tenth day. These experiments are the chief evidence for the view that there is an ultramicroscopic organism present in the urine of early cases which appears to be responsible for these ill effects following the injection of the urine into animals.

The treatment of trench nephritis is very much the same as that of other forms of nephritis and is chiefly dietetic. An important point urged by Langdon Brown, however, is that stimulating diuretics of the purin class, diuretin and theocin, should be avoided and that saline diuretics act much more beneficially in these patients.

The chief interest of trench nephritis seems to lie in its etiology, and a fertile field for research is open to those who take up that phase of the subject and also study the renal function in those cases. A pretty complete bibliography, up-to-date, is subjoined.

BIBLIOGRAPHY.

Ameuille, P.—Role of Infection in War Nephritis, *Ann. de. Med.*, III., May-June, 1916.

Tremolieres, F. & Caussade, L.—Etiology, Evolution and Prognosis of Acute War Nephritis, *Ann. de. Med.*, IV., Jan.-Feb., 1917.

Observations on the Acute Phase of 500 Cases of War Nephritis, *Mil. Surg.*, 1916, XXXIX., 425.

Brown, W. L.—Report on 58 Cases of Acute Nephritis Occurring in Soldiers of the Expeditionary Force, Investigated at St. Bartholomew's Hospital for Medical Research Committee, *J. Roy. Army M. Corps*, 1915, XXV., 75.

Brown, W. L.—Epidemic Nephritis, *Practitioner*, 1917, XCVIII., 111.

Brown, W. L.—Trench Nephritis, *Lancet*, 1916, I., 391.

Ameuille, P. & McLeod, J. W.—Le Functionnement Renal Chez les Troupes en Campagne et ses Rapports avec les Nephritis de Guerre, *Bull. Acad. de. Med.*, Par., 1916, 3's., LXXVI., 103-105.

Rudolph, R. D.—War Nephritis, *Canadian Med. Ass. J.*, 1917, VII., 289.

Thornley, R. L.—Note on an Organism Present in the Blood of Patients Suffering From Trench Nephritis, *Brit. M. J.*, 1916, II., 836.

Parisot, J. & Ameuille—Acute Cryptogenetic Nephritis Observed Among Troops in Campaign, *Bull. de l'Acad. de Med.*, Nov. 9, 1915; Abstr. in *Mil. Surg.*, 1916, XXXIX., 78.

Nephritis in the Field—*Mil. Surg.*, 1916, XXXIX., 418.

Ameuille, P.—Les Nephrites Aigues Azotemiques des Troupes en Campaign, *Presse Med.*, 1916, XXIV., 489.

Raw, N.—Trench Nephritis: A Record of Five Cases, *Brit. M. J.*, 1915, II., 468.

Abercrombie, R. G.—Acute Renal Disease Amongst Troops in France, *Brit. M. J.*, 1915, II., 531.

E. Magnus-Alsleben—*Munchen Med. Wchnschr.*, Dec. 12, 1916, p. 1774.

Rostoski & Pantaemis—*Deut. Med. Wchnschr.*, Dec. 14, 1916.

R. L. Mackenzie Wallis—*Jour. Roy. Army Med. Corp* Vol. XXVI., 1916, 259.

THE RELAXATION OF ALCOHOL.*

By FRANK HANCOCK, M. D., Norfolk, Va.

I can do no more than skeletonize the vast contents of this subject, to think about a bit of it at a time, to fix upon some aspect of it, and to ignore the rest. An intense human interest attaches to the subject of alcohol, its countless forms of beverages, their odors, tastes, and colors.

No subject has made a stronger impression upon the human mind, save the sexual relation only. The desire for bread has not been more prominent in domestic economy; problems of capital and labor, of the production and distribution of food, of high prices, of social struggle generally, have been sequestered problems all beside the absorbing question of alcohol,—of how to get it, and the universal desire to drink it.

All the races of men, from the cave dwellers of the last glacial period, and their contemporaries of the plains of Neander, to the present time, have experienced this profound universal thirst.

No savage tribes known to anthropologists, in ancient or modern times, having fruit, grain, or vegetables to use, have been without this drug, or one having similar properties. Always and everywhere, the desire has been so intense, and the thirst so keen, that herbs have been forced to yield their contents, in some manner or in some way, that man might drink. Increasing attempts to control the manufacture, sale, and use of alcohol over larger and larger areas of country, aided by the vast machinery of the Temperance Movement, with its skilled and zealous workers, making it more and more difficult to obtain alcohol, do but serve to show the seriousness, innateness, instinctiveness, of this will to drink, of man's inflexible purpose to obtain alcohol.

In the year nineteen hundred and fourteen, more than two million gallons of liquor were consumed, for which the people of the United States paid more than six hundred million dollars, the value of the wheat crop for that year. Imported wines and the products of illicit stills are not included in this estimate.

It is probable that prohibition laws in various states resulted in many Americans going thirsty that year, or more liquor might have been consumed, though this seems a fair amount. The sociologist believes that until the *cause* of this besieging hunger is known, and reasonably dealt with, no real progress can be made in solving the social problem of alcohol. I ask you to consider if it is not reasonable to suppose that behind the real craving for alcohol lies a real need of the human organism, some ulterior purpose that has to do with the animal economy? Only a scientific, purposive, inquiry of this sort can determine the question of the alcohol motive.

For a moment I will ask you to consider the effects of alcohol upon the human organism, and then I will take up this theory, hoping to explain to you that the real desire for alcohol does not represent total depravity, nor original sin, as the prohibitionists teach, but is an inherent expression of human wants.

Physiological, sociological, and psychological laboratories' medical reports, hospitals and asylums, unite in contributing to an accurate knowledge of the effects of alcohol upon the mind and body, in moderate doses.

The literature of inebriety, intemperance, alcoholism, we have had with us always. Alcohol is not a food, except under restricted conditions; it is not a stimulant, apparently. It depresses all forms of life, from the cell of the rhizopod to the complex contex of the human brain; the larger the dose the greater the depression.

It does not increase muscular efficiency, though it appears to. Reaction time is shortened, and the liberation of energy facilitated, reasons for the sense of sufficiency that follows the ingestion of alcohol.

Is this an advantage in the struggle for existence? Let us see:

Kraeplin has shown that the laborer who uses alcohol destroys his efficiency.

Retrieving dogs given the drug do half as much work as the others, so the experimenters say.

Mountain climbers lose twenty per cent. in efficiency following moderate doses.

Mentality is deadened; apprehension is slower; accuracy lessened, and the memory impaired.

This experimental evidence is fully corroborated by the practical experience of railroad and steamship companies, shops, manufac-

*Read before the Medical Section of The Norfolk County Medical Society.

tories, contractors, exploring parties, athletes, etc.

The nations engaged in war at present do what they can to dilute the alcohol drunk at home, and issue only small quantities of concentrated drinks to the soldiers in the field. In surgery, alcohol has been replaced by antiseptics, and in medicine by milk and eggs. From whence, then, has come the universal desire to drink it, it is so damned and deadly, contributing to neither health, happiness, nor longevity?

Now, these are the facts that have been considered up to this time. They are well understood by physiologists, sociologists, and prohibitionists.

But why do men drink alcohol?

Is it a perversion, or is it a need? It is vital that we should know.

Yet those who tell us that the problem of alcohol has been solved have never even considered this basic question.

It is just now that psychologists have come forward with the statement, and the seeming proof, that the *real desire* to drink alcohol is *the real need* of the human organism for *relaxation.* I refer especially to the work on "The Psychology of Relaxation," by Prof. G. U. T. Patrick. They tell how it deadens pain, drives away care, brings contentment, ease and inner harmony, relieves the disagreeableness of daily drudgery, renders gloom penetrable, removes yokes, lightens burdens, brings inspiration, songs, and flowers. The pleasures and follies of the ancient gods become the property of the earthborn through alcohol.

This soul tendency, impulse, appetite to be filled with something, to enjoy something present, to expand; to return, perhaps, to a primal æther, to resume an original freedom, was heartily believed in by the wise men of the Greeks, and well provided for in their philosophies.

It has been the practice of our times, and the centuries immediately preceding us, to declaim against the beautiful, to declare it baneful, to believe that all pleasures were evil essentially, and to deplore their indulgence.

The crusade against alcohol has been made, in part, by these descendants of the Puritans, men who brought to this great subject a pruriency of thought that made clear thinking impossible. They were never able to move back and forth between the ideal and the facts, to gear in with a world that needs an adjustive mechanism. That truth is vast, and that they might be ignorant of some part of it, will some time be comprehended by the theologians.

We have not needed the psychologists to tell us the effects of alcohol; but we have needed them, apparently, to remind us that if we take away the enchantment it brings, we must give something in its place.

Psychical processes that have developed late in the history of the human race are most easily fatigued; they cannot be used continuously.

Human progress, that has sharply differentiated us from the rest of the animals, has been due to the development of definite mental processes, of corresponding high cerebral centres, the chief function of which is the capacity for sustained attention,—a capacity that the savage man has beyond the beast, and the civilized man has beyond the savage.

Progress has been possible because man has narrowed the field of attention, has focused his powers, has been capable of mental strain and effort, has held his thoughts to one subject.

Concentration, abstraction, continuous thinking, have been responsible for science and invention; for telegraphy, telephony, art, and literature.

Something, somewhere, in the cosmic consciousness, in the vital impulse, in the will to live, or in natural selection, impels us eternally in these directions.

It is the relaxation from these ceaseless, driving purposes, that men seek, and that ethyl alcohol affects; a deliverance from discipline, from the will to power, that makes it seem, as it may be, a factor of safety in human development.

Alcohol represents to the adult what play and sport represent to the child. It is typified in other human amusements, as in reading fiction, seeing the drama, enjoying music, walking in the fields.

Our brains rebel, driven by relentless forces, and we seek repose and rest.

When human beings have not used alcohol, they have used some other drug that, affecting

the brain in a similar way, brings on an artificial relaxation.

Ethyl alcohol has the peculiar property of paralyzing the higher and later developed brain tracts, the tracts that have to do with the forms of mental activity that accompany work and strenuous living. The later developed, the more susceptible are they to the creeping benumbment of alcohol. Play and sport in childhood turn the energy of the brain into the lower and older racial brain paths, resting the higher and newer centers.

So, likewise, the tired adult reverts to the habits of the primitive man, with his guns, and rods, canoes, and camp fires. These are the activities that afford him rest and seclusion, recreations of his ancestors with retreating foreheads and flattened occiputs, tens of thousands of years ago. Nor did these Heidelberg, Neanderthal, and Tasmanian types of men content themselves with the chase and the life in the open. They soon learned that fire and water to warm their ancient grottoes, and tallow to light them, were not the only comforts to be had in the long winters of the glacial periods in which they lived, when their activities were so greatly circumscribed. It is highly probable that, as the winters wore on and they could no longer hunt, they experimented more and more with wood and vegetable fibre, partly through dependence upon the latter for food; and as they developed the rudiments of art and implements—shown by drawings on cave walls, and flint instruments beside their bones,—they also learned the principle of fermentation, because sometime after their successors came marching into history, each with his favorite brand of alcohol.

Students of ethnology will understand that the discovery and use of fermented infusions came on in an evolutionary way through the cumulative experiences of early tribes; that no particular period may be credited with the manifestation.

For thousands of years, then, all races have used alcohol, acquiring considerable immunity in the process. For that reason, experiments on animals who have not had that experience are without value, except, perhaps, to confirm some experimenter's view.

To this day the Jew is more immune than the rest of us to fermented liquors because his racial extension into the past is more direct than that of the nations about him.

Of all the nations in the world, Norway, only, has shown a relative decrease in the consumption of alcohol in the past twenty years, the reason being that Norway does not prohibit the use of alcohol below two per cent., but really encourages it. The prohibition comes with the highly percentaged drinks which are taxed out of existence. This sane view of an otherwise unapproachable problem, and the practice, as carried out, are responsible for the unique position of Norway.

The Russians are finding since the elimination of Vodka that the people are extracting such an amount of alcohol from furniture polish, denatured alcohol, and Eau de Cologne, that the Provisional Government has just now decreed that certain low percentaged wines may be sold in the wine producing areas of Russia, and that certain other low percentaged drinks may be sold elsewhere. In the meantime, in Alaska, where alcohol is under the prohibition of the United States Government, great quantities of highly charged alcoholic perfumes are consumed, some of them as high as eighty per cent. Nowhere in the world is there such a demand for perfumes and paints, with high alcoholic content, as in countries where prohibition has been attempted.

ABDOMINAL CESAREAN SECTION—INDICATIONS—TECHNIQUE—CASE REPORTS.*

By J. R. YOUNG, M. D., Anderson, S. C.

We do not propose in this paper to give an exhaustive essay on the subject of abdominal Cesarean section, but for those who are interested a bibliography is appended which will refer to some excellent recent articles on this subject. Nor do we presume to speak as one having authority derived from wealth of clinical experience. Our experience is quite limited and we pose only as an interested student of this ancient, but modernly vitalized obstetrical operation. We shall discuss (1) the scope of this operation according to recent opinion, (2) the results which follow the more extensive use of this operation, (3) the technique or type of operation considered from a

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surgical standpoint, (4) a few brief case reports, with conclusions.

(1) SCOPE OF OPERATION.

This ancient operation, performed in obedience to law in the days of the Caesars upon dying and recently dead women with the hopes of saving child in utero, has developed, since the advent of aseptic surgery, into a well-grounded procedure of surgical obstetrics. Its performance may be considered in any case where there are definite and urgent indications for emptying the pregnant uterus.

This wonderful development in the scope of this operation has been largely within the last ten or fifteen years. This truth can not be better shown than by the following quotations: Edgar, in his Practical Obstetrics, published in 1903, says: "Even under best circumstances Cesarean section is always a dangerous operation." Over against this consider this recent statement from Holmes,[1] of Chicago, "Anyone who has mortality of 5 per cent. or over following Cesarean section, should revise his indications for the operation." This, again, from Edgar, "Eclampsia and placenta praevia have been put down by some as conditions which may occasionally demand Cesarean section; however, while it is conceivable that in the former operation might be done, it is safe to say that placenta praevia will never demand it." Against this is to be noted the following recent statement from Williams.[2] "When diagnosis of concealed accidental hemorrhage is made the indications for treatment are simple. In this event the operation of choice is abdominal Cesarean section, except in those rare cases where cervix is fully dilated when the patient is first seen. But under all other conditions I am convinced that immediate abdominal Cesarean section will be the most conservative procedure for the mother, and the only one that offers the slightest chance for the child."

These statements, we think, fairly well measure not only the development of the operation itself, but also show the change of mind of the profession in regard to scope of operation. What, then, is the scope of this operation? When is it indicated?

Absolute Indications.—(1) Pelvic contractions.[3] All authorities agree that contraction of pelvis that precludes birth through normal passage is an absolute indication if child is living and mother uninfected. The degree of contraction that may thus demand this procedure is given by most authorities as a contraction in which true conjugate is 8½ c.m., or under, and when we recall that true conjugate is normally 11 c.m. this does not appear an extravagant minimum. (2) Tumors—bone tumors, fibroid of uterus, cysts of ovary—that completely block outlet. (3) Dense stenosis or distortion of soft parts.

When it comes to relative indications, opinion is by no means uniform, but I think the weight of authority would subscribe to the following relative indications:

(1) Disproportion between head and pelvis which has resisted test of labor. A pelvis with true conjugate of 8½ c.m. or 9½ c.m. will make it extremely improbable that living child can be extracted and Cesarean section will then compete with pubiotomy, or craniotomy as a means of delivering.

(2) Pronounced obstruction to birth passage from any cause, pelvic tumors, cancer of cervix, advanced cancer of rectum, dystocia due to ventrofixation.

(3) Placenta praevia centralis if bleeding is severe and cervix rigid.

(4) Premature detachment of normally situated placenta if symptoms show severe bleeding and cervix is rigid.

(5) Eclampsia if birth passage is totally unprepared and mother uninfected.

(6) Uncompensated heart lesion (rarely).

Certain extremists have advocated Cesarean section as a method of delivery to be considered among such well established procedures as medium or high forceps delivery, version or induction of premature labor by elastic bag, and even claim that it is justifiable in face, brow or post occiput position.[4] Holmes[1] claims that a veritable "furor operativus" for Cesarean section is spreading among the profession as was the case with oophorectomy twenty-five years ago. That there is some ground for criticism is shown by the report of a case of Cesarean section done with fatal results on the mother of four children because she had gone one week over her calculated time. Such abuse of the operation is regrettable, but it should not be charged against the operation itself, but to the "grand stand" streak in the operator.

Just as there are absolute and relative indications, so there may be absolute contra-indications.

(1) Dead foetus, Cesarean section absolutely contra-indicated.

(2) Living baby and badly infected mother, Cesarean section contraindicated.

(3) Patient who has been repeatedly and carelessly examined, or who has been subjected to prolonged efforts towards delivery, even if she has no fever, should be considered infected. In such cases Cesarean section should not be done unless danger is fully explained.

In other words, Cesarean section should only be chosen as the method of delivery where it offers best chance of life for mother and child.

(2) RESULTS OF OPERATION.

What results can Cesarean section show, or what is the mortality and morbidity?

Any operation that is performed for such a variety of causes must necessarily show an equally varying mortality, and a fair idea of the results of the operation can only be had by grouping the cases according to indications for operation.

Between 1891 and 1896 the mortality (maternal) for Cesarean section done for all causes was 38 per cent. By 1902 this had been reduced to 20 per cent., and by 1904 it had fallen to 12 per cent.[6] This wonderful improvement was due not only to rapid progress that was made during this period in aseptic surgical technic, but also to better selection of cases.

The pioneers in this field early recognized that the seriously infected women, or those who had been subjected to repeated attempts at delivery, made a poor risk for Cesarean section. Acting on this information they advised that the operation, when indicated, be done early and not as last resort. And in proportion to how an operator today heeds this advice will he be able to report a low mortality. Today the mortality for Cesarean section done in clean cases and for mechanical causes (contracted pelvis, etc.) is scarcely higher than that negligible mortality which obtains in all abdominal surgery. Nicholson reports a group of 500 such cases done by three operators in which mortality was 1-3 per cent.

In that group of cases which the Germans call "neglected cases," in whom infection cannot be demonstrated, but who have long been in labor with membranes ruptured, and have been subjected to several questionable examinations, the mortality following Cesarean section done for mechanical causes is given as ranging from 8 to 16 per cent. [6—7]

What results can be shown in Cesarean section done in eclampsia, and how does this compare with mortality of cases treated otherwise? Some writers still give 40 or 50 per cent. as mortality following Cesarean section done in eclampsia, but Peterson[8] in a critical review of 500 cases of abdominal Cesarean section for eclampsia clearly shows that these figures are not now true. He shows that mortality during the last five or six years has been reduced from about 50 per cent. to about 25 per cent., and that this figure can still further be reduced by operating early before trying other plans. He shows this by reporting a series of 91 cases operated by 13 men, with mortality of 18 per cent., and a smaller series of sixty cases where operation was done after few convulsions, with mortality of only 15 per cent. These figures compare well with the 20 or 30 per cent. maternal mortality which usually follows eclampsia treated by other methods. And the fetal mortality is relatively much more favorable, the same writer reporting a series of 248 cases with immediate fetal mortality of only 3.6 per cent., whereas, in eclampsia treated medicinally, or by emptying the uterus through the natural passage, the fetal mortality is from 35 to 50 per cent. (Edgar).

Before leaving this phase of the subject, this fact, which has been emphasized by many writers, Holmes, Peterson and others, should be mentioned: Eclampsia *per se* is not an indication for Cesarean section, but any obstetric condition which makes delivery through the natural passage prolonged and difficult may be an indication for abdominal Cesarean section in eclampsia. When such condition is promptly recognized and abdominal Cesarean section done before convulsions occur and before any attempts are made to deliver from below, both mother and fetus will in our opinion have been given the best chance of life.

What about morbidity following Cesarean section? Does this operation jeopardize the future reproduction capacity of the uterus? This can be definitely answered in the nega-

tive, as there are now hundreds of cases in which operations have been performed repeatedly on the same patient. Davis,[10] in reporting a series of 571 cases, had 78 cases upon which Cesarean section had been previously done from one to five times.

(2) Does this operation, once performed, necessitate its performance at subsequent labors? This can also be answered in the negative, with this caution added: At each subsequent labor, progress should be closely watched and first symptoms of serious dystocia should be signal for interference.

(3) Is the uterine scar liable to rupture during subsequent pregnancy and labor? This is very improbable, but its occurrence has been reported in twenty-six cases. When we recall that this accident (rupture of uterus) happens once in a thousand natural deliveries (and according to Williams much more frequently than this), and has only been recorded as happening 26 times,[6] while being closely watched for in the many thousands of patients who have had this operation, we must conclude that rupture of uterus is an extremely improbable sequel. So morbidity is negligible.

(3) THE TECHNIC OF OPERATION.

The technique of this operation will not be discussed at length, but the relative merits of the classical, and Davis type of operation, and the low, or so-called extra peritoneal, type, will be considered.

The so-called classical Cesarean section was devised by Sanger in 1882, and consisted in long median line abdominal incision, eventration of uterus, and median vertical incision of uterus from inter-tubal line downwards. After delivery the wound in uterus was closed at first with silver wire and in later years with cat-gut.

Davis, of the New York Lying-In Hospital, suggested an improvement which has been generally adopted in this country at least. His left para-median incision, about 4½ inches long, is made entirely above the umbilicus; the uterus is not delivered from the abdomen, but is made to present into the abdominal wound by lateral pressure from the hands of an assistant. The peritoneal cavity is protected by large abdominal packs. The four-inch median vertical incision into the uterus is then made and fetus delivered in usual way. The two layer cat-gut closure of the contracted uterine incision is facilitated by guy sutures at each extremity held taut by an assistant. The advantages of this method are:

(1) Ease of performance.
(2) Ventro-fixation avoided. Abdominal scar not on same level as scar in contracted uterus.
(3) Smaller abdominal incision, and hence less danger of hernia; and capable of being done more quickly.
(4) Done with local anesthesia.

As opposed to this high intra-peritoneal method of Davis there is the low extra-peritoneal type devised in 1907 by Frank, of Cologne. It was worked out with the hope that it might be safely used in delivering infected women in whom the mortality was very high following intra-peritoneal operation. The plausibility of the plan was shown by the enthusiastic reception accorded the operation, and in short time some twenty modifications had been suggested.[6] From the following brief description it will be seen that the operation is trans-peritoneal, and not extra-peritoneal. The Veit-Fromme technic is perhaps the most popular of various modifications, and is as follows: Trendelenburg posture, median vertical incision to parietal peritoneum from symphysis to point two inches below umbilicus; parietal peritoneum incised from top of bladder upwards, about four inches, to point corresponding to situation of lowest area of firmly attached uterine peritoneum; uterine peritoneum is incised to identical degree, and two leaflets of peritoneum, parietal and visceral are whipped together with cat-gut, leaving a denuded four-inch oval, or button hole, in which presents the lower uterine segment. A vertical incision is made in this and fetus delivered with forceps. The uterine incision and abdominal wall are closed the usual way.

A few years' experience with this method proved that it could not be safely used in seriously infected cases, but it was found that in neglected cases it gave better results than the intra-peritoneal method. And now this method is advocated by many (Selheim, Gellhorn, Hirst), as being best in all cases. It is claimed that following its use there will be:

(1) Absence of adhesions.[9]
(2) Less chance of infection.

(3) Less bleeding.
(4) Wound should heal more perfectly in that it lies in portion of uterus at rest (not involved in after pains).

On the other hand the operation is more difficult, the danger of wounding bladder is greater, the delivery of child through smaller incision more delicate in this method than in classical type and for occasional operator the intra-peritoneal will be the method of choice except in neglected cases.

(4) CASE REPORTS.

Case reports will not be made in detail, except one recent case which has some points of unusual interest. Mrs. B., age 21, went into her second labor on October 23, 1916, two weeks after her calculated time of confinement. She gave the following obstetrical history: Her first labor, two years ago, was prolonged and finally terminated by forceps delivery; had a tedious puerperium and nine months later had an operation, which she thought consisted in removal of appendix, removal of right ovary and some operation for misplaced uterus. She was told by the surgeon who operated that she would not become pregnant again (so she understod him). She had suffered a great many pressure pains or tearing pains, during this pregnancy and insisted that she had not "carried" this child like she did her former one. Careful vaginal examination, using usual two-finger method, failed to locate external os. The entire hand was then introduced into vagina, and with much difficulty the anterior lip of external os was reached above level of sacral promontory. This lip was thin and taut. So great was intra-pelvic pressure that examining fingers could not be flexed forward to enter cervical canal. It was immediately decided that delivery through natural passage was absolutely impossible. Not only was head not engaged, but lower segment of uterus was not, and apparently could not engage. Vaginal Cesarean section was impossible since lower uterine segment was quite inaccessible from below. Abdominal section was done; Davis operation carried out, except abdominal incision was made lower. Nine-pound baby delivered. The vertical incision in uterus was through its posterior wall the lower limit of incision being in inter-tubal line. The anterior wall of uterus lay tightly across pelvis between two fixed points. The fundus had evidently been fixed to supra-pubic fascia at former operation. As pregnancy advanced, and the fetus grew larger the posterior wall of uterus expanded to accommodate growing fetus. This tended to pull the lower uterine segment up out of pelvis. This upward pull constituted the posterior fixed point and explained why it was so difficult to reach the external os on vaginal examination. It was noted how extremely thin the over-stretched posterior wall was, and also to what a marked degree the lower segment was used as receptacle. That the thinned-out musculature of lower segment would have ruptured had not labor been interrupted was very evident. After closing uterus in usual three-layer method abdominal incision was lengthened and the firm fibrous tissue fixation of fundus was relieved. The redundant serosa was folded over rough area, leaving a smooth surface. Before closing abdomen uterus had contracted well. It had shape of anti-flexed uterus with an exaggerated fullness on posterior surface. Mother and baby did well, leaving hospital in two weeks.

Examination three and a half months later revealed a small freely-movable uterus with cervix in easy reach. The only explanation that I can offer as to why this patient went to full term is that she could not abort.

There have no doubt been other cases of Cesarean section done following ventro-fixation, but this was the only case of the kind that I have seen, and I thought it of sufficient interest to report in detail. To observe, in action, so to speak, nature's wonderful compensatory power was interesting.

Ten other cases will only be mentioned. Five were done in eclampsia or toxemia. One of these died in coma on third day. Others recovered.

Two cases for contracted pelvis; one for placenta previa; one for premature separation of placenta, and one for firm stenosis of cervix, (on primipara of forty-three years who had been given three days' test of labor) recovered.

From this limited experience no general conclusions may be drawn, but I have been impressed with the smooth convalescence, and the absence of all symptoms suggesting subsequent adhesions.

In the contracted pelvis case twice operated

the uterine scar of the first section was scarcely discernible. This patient was sterilized at second operation, at her request, which appeared reasonable on account of crippled condition of twenty years' standing, due to ankylosis of both hip joints.

While it is not permissible to draw conclusions from series of eleven cases, I have collected a series of 80 cases done by 12 operators in this state (S. C.) with maternal mortality of 16 per cent. and fetal mortality of 23 per cent.; and excluding chidren who were dead before operating, or were premature, the fetal mortality was only 2.7 per cent. These figures do not compare unfavorably with those reported by A. B. Davis, who in his series of 500 cases had maternal mortality of 10 per cent. And in his series the indications of contracted pelvis was relatively much more common. In this series of 80 cases there were 42 eclampsias with maternal mortality of 23 per cent., and fetal 33 per cent. Excluding premature infants and those dead before operation fetal mortality was nil. Davis' mortality in eclampsia was 37 per cent.

CONCLUSION.

Abdominal Cesarean section has an established place in surgical obstetrics. Where absolutely indicated for mechanical reasons its performance should be early decided upon and patient not subjected to test of labor.

Its success will vary inversely with chance of previous infection.

Eclampsia is not itself an indication for Cesarean section, but an obstetrical condition which precludes rapid and safe delivery through the natural passage is an indication for Cesarean section in eclampsia.

It is preeminently important that Cesarean section, when indicated, be done early in eclampsia before the narrow margin of safety is effaced by repeated infection-inviting examinations and attempts at delivery. This should not be forgotten when the uterus has been thus emptied the treatment is not complete. Only the "toxo-gentic" focus has been removed and the further elaboration of the eclampsia producing poison stopped. The patient will recover or succumb according to whether or not she is already hopelessly saturated with the kidney and liver necrosing poisons of eclampsia.

Placenta praevia and premature separation of normally situated placenta do not demand Cesarean section if the soft parts are prepared for rapid natural delivery. In short, any obstetric condition that may confront us whether it be a problem in mechanics, as an impacted shoulder presentation, or urgent pathology, as toxemia; hemorrhage, or poorly compensating heart lesion, should be indications for Cesarean section if it appears that this operation offers best chance of life to mother and child.

BIBLIOGRAPHY.

(1) R. W. Holmes, *S. G. O.*, Vol. XXI., 636.
(2) G. W. Williams, *S. G. O.*, Vol. XXI., 541.
(3) R. F. Frank, Johnson's Operative Therapeutics, Vol. V.
(4) Leavitt, *S. G. O.* (Abstracts) *St. Paul M. J.*, Vol. XVII., 601.
(5) Dr. Emil Rice, (Discussion of Dr. Holmes' paper) *S. G. O.*, Vol. XXI., 664.
(6) Wm. R. Nicholson, *S. G. O.*, Vol. XVIII., 244.
(7) Stewart Laurens, *S. G. O.*, Vol. XX., 355.
(8) Reuben Peterson, Reprint from *American J. Obst. and Dis. Women and Children, Vol. LXIX.*, No. 6.
(9) Gellhorn, *J. A. M. A.*, Vol. LXIV., 196.
(10) A. B. Davis, *J. A. M. A.*, Vol. LXIV., 466, abstract from *A. J. Dis. Women and Children*, Vol. LXXI., No. 1.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 200.)

A Surgical Consideration of the Upper Paranasal Cells.

By GREENFIELD SLUDER, M. D., St. Louis.

The procedure I describe has been satisfactory in my hands for ten years. It may be limited for the frontal sinus, providing a very high cut of the middle turbinate, which I have frequently mentioned in various texts as a "cribriform or infundibular turbinectomy." The cut is actually two or two and one-half millimeters from the cribriform plate, and may be extended to the most anterior limit of the infundibulum.

This very high cut may be carried backward to include the capsule of the ethmoid, under which condition not only is the middle turbinate removed, but the uppermost line, and usually all the other ethmoidal cells are opened wide into the nasal cavity. And when desirable the entire anterior wall of the body of the sphenoid from its uppermost limits, with all its postethmoidal association and much of

its floor, may be removed. In my judgment and experience it is the technic that most often may be trusted to open all of the cells, regardless of unusual or anomalous positions. I know, however, that cells may exist that not only cannot be opened from the nose, but cannot be located by any means at present at our command. They can only be recognized in the cadaver, and then only by complete dissection. Everyone who has observed a reasonable number of specimens has seen such cells and been struck by the futility that would attend any surgical effort to reach them; and everyone of reasonably wide experience has met cases where all efforts had failed to find and treat such cells. But there are many other cells that are placed in positions more or less unusual that will be opened by a technic which has for its primary plan an incision which will skirt the cribriform plate and remove the middle turbinate at its most anterior as well as its most upper limits, and extend into the sphenoid body at its uppermost part, regardless of the natural opening, and then be extended downward until it has cut through its floor or found it to be impenetrable. I have here avoided the designation of sphenoid sinus, because such a term does not always comprehend the full body of the sphenoid. It (the body) may be subdivided, and shared by a postethmoidal cell. And it is this variation which I believe to be the most pernicious from the clinical side (for headache and optic nerve lesions), as well as anatomically far more frequent than is at present recognized clinically. This variation will, it seems to me, be satisfactorily dealt with by this proposed technic practically every time it is met. Also prefrontal ethmoidal cells will be opened into the nose as a rule, if not uniformly.

In 1907 I published an elementary text in which I described a surgical method which was at that time novel. It consisted in approaching the turbinate from above on its inner side. Prior to that all surgical approach was from below laterally upward, removing it by scissors or snare, or a combination of these or such working instruments. I described a knife consisting of a handle, a shaft and a cutting end turned at a right angle to the shaft and sharpened so as to cut on the inside of the right angle—i. e., on the pull. It was also sharpened on a face parallel to the shaft, which at the same time gave it far more strength than a hook could have were it sharpened on its concavity. I selected this shape in preference to a hook for those reasons, and the fact that great strength is necessary for the tasks to which this knife is put. The knife, although possessing great strength, is so small that it may readily enter spaces which larger instruments could not. I believe it to be the smallest nasal instrument possessing great strength.

The intranasal surgery of the upper cell may be performed by this method in any part or the whole as conservatively or as radically as desired. The ability to place the incision safely two millimeters below the cribriform plate in any part of or in the whole length of its extent seems to me to be the most advantageous, and not a small part of this advantage is the power to extend this incision to the foremost limit of the infundibulum, thereby opening the inlet of the frontal to its widest natural possibilities. It is most desirable to preserve the natural inlet here, and this is done by a cribriform turbinectomy which leaves undisturbed the histologic epithelial covering of the normal inlet—i. e., the uncinate process, the bulla ethmoidalis, the hiatus semilunaris and infundibulum—regardless of the anatomic variations of the frontal inlet. Should these parts be wounded, as in a curettement, the resultant scar tissue blocks the inlet. The angle knife removes by cutting any desired tissue with the least possible trauma to the surroundings. In the sphenoidal district it opens the uppermost and lowermost possible parts of the face, which has the advantage sometimes of opening also a postethmoidal cell which may occupy part of the body of the sphenoid. (Such a cell is often the cause of the entire clinical picture.) The angle knife is so small that it takes up the minimum room, and so leaves the small field open to the best vision possible. Its execution is always in the direction away from the danger zone. I have so far not seen such satisfactory postethmoidal surgery by other methods. (This district seems to me the most dangerous of all, for on the outer upper aspect runs the optic chiasm and cranial cavity.) Satisfactory execution is necessary, particularly in eye lesions.

This entire performance may be accom-

plished within a short time. I have often finished the high frontal ethmoidal and sphenoidal combined operation in two minutes (including the postorbital opening on one occasion).

A septum nasi deflected into the affected side may add troubles for the surgeon. I have in such cases where the middle turbinate was not visible from in front in any part, used a bivalve speculum specially constructed for the purpose. Just as Killian elongated the blades of the primary bivalve for his needs in septum resection, I have elongated them still more and widened them for my needs here. The speculum should be made of temporal steel blades, knife-like thin, with handles long enough to give leverage to dislocate the entire septum into the opposite nostril. It should have a set screw, for the pressure required is much, and the hand gets tired holding it. Its blades should be nine millimeters wide, for narrower ones, such as are supplied with Killian's, often do not give sufficient view. They should be eighty-eight centimeters long, for shorter ones (Killian's) sometimes fail to reach the posterior field of operation.

The knives are also made right and left. Some of my associates prefer these. My own preference is for the single, straight, original model. I recommend an extra two and one-half centimeters long shaft for use with the long blade sphenoidal speculum. A strong, large handle ought always be supplied for the knife.

A right-hand surgeon makes his turbinate cuts for the left side with cutting edges in the plane of the handle. For the right side the cutting edges are turned one-quarter (ninety degrees) into right nostril. This makes them horizontal or transverse when the handle is on the middle line.

DISCUSSION.

Dr. Harris P. Mosher, Boston: I feel that in working on the ethmoid the questions of time and an accurate knowledge of the anatomy, with a simplification of all procedures are essentials. If you can come down to two minutes, it is about as simple as you can make any procedure on the ethmoid. With Dr. Sluder I think two minutes would be a long time for him in which to do the operation. Again, the fewer instruments you can get along with, the better you are off. I have never done much with Dr. Sluder's knife, but I have spoken to a number of men who have used it and liked it. I believe that for work on the ethmoid we ought to come down to two or three instruments—instruments which are large enough to see and easy to follow from the beginning of their use. For instance, I use a simple straight curette, and the other ordinary instruments.

My feeling is that simplification of the procedure, simple instruments, and an accurate knowledge of the anatomy are essentials in dealing with the ethmoid. Anything which helps that along is welcome; anything which adds to the complexity of the instruments adds to the difficulties.

Dr. J. Winslow, Baltimore: I find the Sluder knife of the greatest use in practically all nasal sinuses, and employ practically no other instruments in work on the middle turbinate, unless it be a pair of tiny forceps or snare. One reason that attracted me to the instrument in the beginning was that I had a number of cases with suppuration and deviation of the septum, and it was extremely desirable that there should be good drainage. At that time I did not feel it proper to perform the deviated septum operation, and required some instrument small enough to correct the condition. These knives served the purpose.

Dr. Christian R. Holmes, Cincinnati: I want to congratulate Dr. Sluder upon his most excellent paper. I think, however, that it is well enough for us to bear in mind that we are in a most dangerous region, and what can be done by Dr. Sluder, an expert, cannot be done safely by inexperienced hands. We are in a region where we operate because there is infection, as a rule.

I have in mind a case where I wanted to do a Killian, cleaning out all the cavities. It really was a case of ozena, but I attributed it to disease of the sinuses and wanted to remove the middle turbinate before proceeding with the general operation, both for the purpose of testing the condition, and seeing whether there was a tendency to active suppuration, etc. The removal was very carefully done, under all precautions, and in spite of that the patient developed meningitis and died. And here the

middle turbinate was removed by scissors only, so there was no special trauma.

I am not in any way decrying the method as presented, but am simply calling attention to the fact that we send out these articles without a word of warning to the inexperienced men who read them and learn about these instruments without ever having had an opportunity of using them. This is very dangerous, and I think we are not doing our full duty. It seems to me that Dr. Sluder has not sufficiently emphasized the fact that there is danger, unless we use special care, and that inexperienced men, who do not know the anatomy or bacteriology, cannot consider that they can buy the instrument without knowing how to use it, and then begin to work around the cribriform plate.

Dr. Greenfield Sluder, St. Louis (closing the discussion): Had I adhered to my text, Dr. Holmes would have been answered. It is emphasized that the district must be approached with care and understanding.

I fancy that Dr. Mosher's idea of the simplification of instruments is not quite right, from the number that I have turned in to the chair. There is one knife which may be used for the entire procedure, if you stop to turn it this way and that. If you want to work faster, you can have three knives turning in various directions. Others are unnecessary except for more or less refinement in technic.

I think, however, that the only reason I have for appearing before you with this technic is that it affords a method which cuts everything downward and outward. If there is any device which can make surgery at or approximating the cribriform place safe, it is in our hands, and it seems to me that whosoever will approach the district with this method shall have a means which will let him get his bearings, feel the cribriform plate, and then begin his cut. If the knife is big enough, it can tear into the orbit, and that is the reason I have emphasized the necessity of the surgeon knowing his model.

I am glad Dr. Holmes emphasized the necessity of care being taken and emphasis being laid upon who shall and who shall not work in this region. I am perfectly aware and alive to the fact that there are many surgeons who buy instruments from the instrument maker and do not familiarize themselves either with the method which requires the instrument or even the directions accompanying the instrument. There is no help for that; we cannot appeal to such a man nor emphasize the necessity of his knowing just what he is doing. He must know his anatomy, first, last and forever; and secondly, he must have an instrument which will then make his procedure as safe as the procedure may be made.

Analyses, Selections, Etc.

The Value of the Von Pirquet Test as Controlled by Necropsy Findings.*

By J. H. KNOX, JR., Amer. Jour. Dis. Child., July, 1917.

The careful work of the investigator, following closely necropsy findings rather than depending upon the more common method of physical examinations or X-ray, lends considerable weight to the report and helps immensely towards substantiating former claims regarding the reliability of the von Pirquet test.

During the time of this investigation 2,940 cases were admitted to the wards, with 750 deaths. Of this number, careful necropsies were done in 324 infants and children. 68 cases were found at autopsies to have tuberculous lesions, while 256 were found to be free from tuberculosis.

Of the 256 cases having no tuberculous lesions at autopsy, the von Pirquet test was made in 172 instances. It was never positive, but negative without exception.

Of the 68 cases in which tuberculous lesions were found at autopsy, the von Pirquet test was made in 61. Of these, the result was positive in 45 and negative in 16. In 12 of the latter the patients were suffering from rapidly advancing widespread miliary tuberculosis, in two instances from tuberculous meningitis, in two from pulmonary tuberculosis of advanced stage with cavity formation, and in one instance from tuberculous peritonitis.

A negative test, therefore, except in extremely ill patients where the presence of tuberculosis can be readily detected by physical examination, may be taken as strong evidence

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

that tuberculous lesions do not exist; whereas, a positive reaction indicates in every instance the presence of tuberculosis.

Some Analyses of Vegetables Showing the Effect of the Method of Cooking.*

By ANGELIA M. COURTNEY, HELEN L. FALES and FREDERIC H. BARTLETT, M. D.—Amer. Jour. Dis. Child., July, 1917.

With the increasing practice of adding green vegetables to the dietary of infants, the point which the authors attempt to determine is just what part the mineral content of vegetables plays in the role. Analyses of various vegetables were done to determine the total mineral content of the edible parts, and also just how much of the mineral content was lost in the water as ordinarily prepared.

A number of tables are shown to illustrate, first, that there is an excessive waste of salts, ranging from over a quarter of the total ash of onions to nearly three-quarters of that of New Zealand spinach as ordinarily prepared by boiling; second, by reducing the time of boiling the saving of salts was insignficant; while, third, by steaming the vegetables a very great saving in mineral content may be effected. For instance, in spinach the loss by steaming becomes about half of what it was in boiling. In asparagus, it is less than a third, and in carrots it is not even a fourth.

Enlargement of the Thymus Treated by the Roentgen Ray.*

By ALFRED FRIEDLANDER, M. D.—Amer. Jour. Dis. Child., July, 1917.

The author would have us believe that enlargement of the thymus gland in infancy is a common occurrence; moreover, that the diagnosis can be made definitely by means of physical examination, and that the treatment by Roentgen ray can be developed with very satisfactory results.

In this report quite a number of cases were associated with congenital lues; a distinct familial tendency was also noted; while, again, the relationship of hypertrophic stenosis of the pylorus to enlarged thymus was quite apparent.

The enlarged thymus, according to Dr. Friedlander, can be determined by physical examination, using very light percussion. Dullness beyond the sternal margins, especially dullness continuous with the area of heart dullness, is always very suggestive. Definite information is finally determined by the Roentgen ray. Not all the cases show constitutional symptoms. The majority, however, are either dyspnœic, continuous or remittent, have suffocative attacks, or develop a distinct stridor.

The treatment is very satisfactory, the results showing within eight hours in some cases. Thymectomy is discouraged, but "in Roentgen ray we have a therapeutic agent at once safe and remarkably efficacious." A series of 100 cases are mentioned, with four deaths.

Intravenous Glucose Injections in Infancy.*

By CHARLES HUNTER DUNN, M. D.—Amer. Jour. Dis. Child., July, 1917.

In a series of 18 cases a glucose solution was injected through the longitudinal sinus in patients showing extreme atrophy and inanition produced by various forms of gastro-intestinal disease.

The theoretical basis for the use of glucose injections in such cases is that apparently the vicious circle produced by gastro-intestinal disorder has become so extreme that the digestion and absorption of sufficient food to furnish the energy requirement of the body is impossible.

Five per cent. glucose solution was used. The amount taken depended upon the weight of the infant, one-sixtieth of the body weight being taken as a standard. All the urine passed after the injection was collected until it was sugar-free. Benedict's quantitative test was made to determine how much of the original sugar was excreted and how much utilized.

Of the 18 cases in which this treatment was used, 13 died and five recovered. After the injections, seven cases showed no improvement, five showed a slight temporary improvement, and six showed a striking improvement immediately.

In the great majority of instances, either no sugar was eliminated, or else there was only

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

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a slight trace, while only in six instances was a measurable quantity of glucose eliminated. In one case six daily injections of three gm. of glucose each were given and at no time did any of the sugar appear in the urine.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

The Medical Clinics of North America. July, 1917. The Johns Hopkins Number. Volume I, No. 1. Philadelphia and London: W. B. Saunders Company. 8 vo. 193 pages. Cloth, $14 for 6 numbers annually; paper, $10 annually. Sold only by the year.

This periodical is a successor to the Medical Clinics of Chicago and is a decided improvement over the old publication, in that it represents the clinical teachings in six of the leading medical centers of the country. In this first issue, Dr. Theo. C. Janeway has three very interesting clinics, viz., Hodgkin's Disease with Extensive Skin Eruption; Postural Albuminuria, and Diabetes Associated with Disturbances of the External Secretions of the Pancreas.

Dr. Llewellys F. Barker's clinics include one on Meningitis of Unknown Etiology; Atrial Fibrillation in Mitral Stenosis, and Progressive Muscular Atrophy.

Dr. Herman Mosenthal has a clinic on Essential Hypertension in Treatment of Diabetes. There are also clinics by Drs. Thos. B. Futcher, Lewis Hamman, and Thos. R. Brown. If the succeeding numbers are as interesting as this, the subscribers to this bi-monthly should be well repaid both for their time and investment.

The next number is to come from Philadelphia. Succeeding issues will come from New York, Boston, Chicago and St. Louis.

Botanic Drugs—Their Materia Medica, Pharmacology and Therapeutics. By THOMAS S. BLAIR, M. D., Editor Medical Council; Author of "A Practitioner's Handbook of Materia Medica and Therapeutics," etc. Formerly Neurologist to Harrisburg (Pa.) Hospital. 12 mo. 394 pages. Price, $2.00. Cincinnati: Therapeutic Digest Pub. Co., 1917.

The author presents in concise form a convincing argument for the re-study and enlarged use of galenicals. All of the botanic drugs in common use are described, with a critical review of their therapy. The exact dose is given, how best employed, and the distinctions in the use of allied drugs are gone into thoroughly. While there is evident a strong note of personal predilection owing to intimate study of various galenicals, the author gives due credit to the opinions of others. Owing to the increasing scarcity of imported medicinal products, and the greater need for utilization of available home supplies, especially of indigenous plant origin, the book appears at a very opportune time. The volume, while small, is thoroughly practical and dependable, and contains much of value. A double index, first, Drugs, and second, Clinical Index, is a useful feature.

A Text-Book of Pathology. By ALFRED STENGEL, M. D., Professor of Medicine, and HERBERT FOX, M. D., Director of the Pepper Laboratory of Clinical Medicine, University of Pennsylvania. Sixth Edition, Reset. Octavo of 1045 pages, with 468 text illustrations, many in colors, and 15 colored plates. Philadelphia and London: W. B. Saunders Company. Cloth, $6 net; Half Morocco, $7.50 net.

The sixth edition of this well known work now appears under the joint authorship of Drs. Alfred Stengel and Herbert Fox, both of the University of Pennsylvania. Extensive revision has been made throughout to meet advances and the changing views of time, but this is especially noticeable in the sections on Inflammation, Retrogressive Processes, Disorders of Nutrition and Metabolism, General Etiology and Diseases Due to Bacteria. A new section on Transmissible Diseases has been added; the Terata have been incorporated with a brief chapter on Teratology; the Glands of Internal Secretion and their pathology have been made the subject of a separate chapter; and new sections, brief and general in scope, have been added on the pathology of the eye, ear and skin. It has been found feasible to curtail somewhat the chapters on Diseases of the Nervous System, while the chapter on Technic has been omitted, the student and laboratory worker being referred to special works on the subject. Nearly one hundred new illustrations in black and white or color have been added. The book is standard in every respect, and is an excellent text for the student or reference for the practitioner. The publishers have done their part handsomely.

Editorial.

Be Patriotic.

Much has been said and written unofficially about the possibility of conscripting the medical profession to supply the desired quota of physicians for the immense army that our Government is now raising. Physicians are as essential to the success of an army as munitions and if our troops are to be the deciding factor in the terrible conflict now raging in foreign lands, the Surgeon General's office must be supplied with a sufficient number of doctors in the Medical Reserve Corps, to take care of the full complement of troops in the field, on transports, in Evacuation Hospitals and Base Hospitals, in Concentration Camps, etc. While it is no reflection upon any man's honor to be conscripted, at the same time we feel sure that a sufficient number of doctors will volunteer their services at an early date, which means considerable to the individual so applying.

It is reasonable to suppose that those who volunteer early and receive the benefit of instruction in a Medical Training Camp, will be the ones who will receive advanced commissions. The lowest commission offered to a doctor is that of First Lieutenant and it draws the pay of $2.000 a year; Captains receive $2,400 and Majors $3,000. The principal expense to a medical officer will be his mess charges or food, and this should not be over $25 a month or $300 a year in round figures.

Whatever may be the pay, the fact remains that the Surgeon General must have at least 20,000 physicians in the Medical Reserve Corps to supply the present demand, and we feel that the patriotism of the medical profession will be the stimulus that will induce a sufficient number of doctors to offer their services voluntarily. If you have not a blank for commission in the Medical Resere Corps, it may be obtained from the Local Board of Examiners. If you do not know the location of this Board, we will be glad to inform you.

The Medical Examining Board of Virginia

Reports the following list of successful candidates who passed the examination for the practice of medicine at the meeting in Richmond, June 19-22, 1917: Drs. Donald S. Adams, Indianapolis, Ind.; N. Alpert, Washington, D. C.; E. Ray Altizer, Cambria; E. T. Ames, Painter; G. C. Andes, and A. A. Barron, Richmond; Arthur G. Blakey, Barboursville; B. Steele Brake, Jane Lew, W. Va.; Randolph G. Broaddus, Chance; R. L. Carter, Church Hill, Tenn.; D. B. Cole, Richmond; Henry S. Daniel, Louisa; Charles J. Devine, Lexington; L. L. Dill, Angora, Ind.; D. S. Divers, Rocky Mount; Chas. S. Fox, Philadelphia, Pa.; H. S. Falconer, Bedford; E. R. Ferguson and John D. Foltz, Richmond; Ralph J. Ford, Virgilina; Lucius G. Gage, William T. Gay, Bennard F. Gilchrist, J. S. Gilman, Richmond; G. B. Gilmore, Hampton; Berryman Green, Alexandria; Chas. M. Griffith, University; Campbell Harris, Richmond; J. M. Harwood, Petersburg; C. M. Hatcher, Lynchburg; A. L. Hernandez de Medina, Baltimore, Md.; Joseph Heyman and C. R. Hughes, Richmond; Marvin A. Lackey, Mt. Villa, N. C.; Hiram L. Large, Wm. I. Laughon and A. S. Lilly, Richmond; M. A. Johnson, Roanoke; Basil P. Jones, Danville; Linwood H. Justis, Roanoke; Edwin V. Long, Woodville; Joseph L. McCabe, Richmond; H. S. McClandish, University; E. C. McClees, Durham, N. C.; W. B. M. McIlwaine, Petersburg; Geo. P. McNeil, Jr., New York, N. Y.; Peery J. Muncy, Pearisburg; J. J. Neal, South Boston; S. B. Nickels, Big Stone Gap; W. P. Norcom, Washington, D. C.; Morgan E. Norris, Tuskegee, Ala.; John T. Penrose, Whitten, Cal.; Chas. B. Pritchett, Danville; John M. Ratliff, Richlands; Jas. McL. Rogers, Amelia C. H.; Mason Romaine, Petersburg; J. A. Riffe, Clifton Forge; Richard Seagle, Hendersonville, N. C.; Geo. C. Snead, W. R. Sherrick and Andrew G. Shetter, Richmond; Paul C. Spangler, Peterstown, W. Va.; Bertie T. Swecker, Monterey; R. M. Thompson, Purcellville; Roscoe F. Thornhill, Richmond; Foye R. Troute, Roanoke; J. H. B. Warring, Washington, D. C.; B. R. Wellford, Jr., Richmond; S. B. Whitlock and S. D. Williams, of Norfolk; John E. Wine, Richmond.

"Safety First" Is Life-saving on the Norfolk and Western Railway.

We have often wondered if the "safety first movement" was more than a spasmodic effort and a fad of but little real significance. A pamphlet issued by the Safety Commission of the Norfolk and Western Railway Company

shows, however, beyond peradventure that the value is positive and that the movement has come to stay.

Using as a basis the year 1912, the beginning of the five year period covered by the report, when the Norfolk and Western was as safe as—perhaps safer than—the average railroad, 61 employees were killed. "In 1916 the volume of business was 42 per cent. greater than in 1912, yet only 31 employees were killed, a decrease of 49 per cent., and the same remarkable decrease will be found in the injuries shown on the other pages in spite of the abnormal increase in business." From 1912 to 1916, inclusive, more than 34,000,000 persons were transported an aggregate distance of more than a billion miles without a single passenger having been killed in a train accident.

Aside from the saving of lives, and the decrease in the number of maimed, the money saving to the company and families of employees and patrons must have been tremendous.

"Safety first" is aimed at the prevention of accidents—largely due to carelessness of employees and others—that might have been avoided by reasonable means, and the excellent record of the company, as is shown by the results obtained, is abundant proof of an intelligent and efficient personnel.

European Methods To Be Shown American Surgeons.

The Rockefeller Institute for Medical Research has opened its war demonstration hospital on the grounds of the Institute at Avenue A and Sixty-fourth street, New York. The demonstration hospital has been housed in a series of portable buildings, such as are used in the most improved base hospitals on the western front, so the conditions under which hospital work are carried on in France are demonstrated.

The purpose of the hospital is to treat patients suffering from infected wounds by methods used in European war hospitals. Especially will the methods developed by Drs. Alexis Carrell and H. D. Dakin, be demonstrated. For this purpose Dr. Carrell has been granted a leave of absence by the French government to come to New York and give his personal supervision to the work. He will be assisted by Dr. Adrian V. S. Lambert, of the College of Physicians and Surgeons of Columbia University. In admitting surgeons to follow the demonstrations, preference will be given to members of army and navy medical corps.

Red Cross Hospital For Navy.

The American Red Cross has established at Philadelphia, for the use of the Navy, at the present time, the first general Red Cross hospital in this country. The city of Philadelphia condemned the buildings and grounds of the Medico-Chirurgical Hospital in order that a boulevard might be cut through its grounds. As this did not seriously interfere with the usefulness of the building, the city offered this hospital to the Red Cross for an indefinite term without rental.

The Red Cross has undertaken to alter and re-construct the building and has appropriated $20,000 for its current expenses and maintenance. It will contain about 250 beds and will be known as the Red Cross General Hospital No. 1.

Married—

Dr. Everett Sperry Barr, of Otterburn Springs Sanatorium, Amelia, Va., and Miss Alpha Rasor, Biltmore, N. C., August 6.

Dr. Clifford Algernon Folkes, Roanoke, Va., and Miss Alma Norment, Highland Park, this city, August 18.

Dr. John William Martin, of the 1916 class Medical College of Virginia, and Miss Lillian Alberta Heisler, Richmond, August 18. They will make their home in Clifton Forge, Va.

The Augusta County (Va.) Medical Association

Had a called meeting on the evening of August 17, at the Y. M. C. A., in Staunton, to hear an address by Surgeon J. P. Leake, U. S. A., on Infantile Paralysis. Surgeon Leake was detailed to this work by the Surgeon General upon request of President-elect of the Association, Dr. A. L. Tynes.

Dr. Lloyd Leaves Catawba Sanatorium.

Dr. John J. Lloyd, who has served so efficiently as superintendent of Catawba Sanatorium, this State, for some years, has accepted the position as superintendent of Iola Sanatorium, the municipal tuberculosis hospital of Rochester, N. Y. He will leave for this new position the end of August.

Dr. B. L. Taliaferro, who has been associ-

ated with Dr. Lloyd in the work at Catawba Sanatorium for several years, will succeed him.

Guard Against Poliomyelitis.

To reduce the dangers of a widespread outbreak of infantile paralysis, although no quarantine has been declared, the State Board of Health has issued warning to parents against permitting children under 12 years to travel promiscuously in the State. Parents are also advised to take all sanitary precautions and to keep children, as far as practicable, from unnecessary contact with others, the idea being to avoid probable carriers of the disease. The age of 12 has been set as the upper limit, because experience has shown that 97 per cent. of all victims of infantile paralysis are under that age.

Some Red Cross Work.

At request of Surgeon-General Braisted, U. S. Navy, the American Red Cross has called upon ten of the larger chapters of the society nearest New York, to supply at the earliest possible moment surgical dressings to each of 188 battleships and destroyers. This will require a total of more than 600,000 surgical dressings.

The War Council of the American Red Cross has appropriated $10,000 to free the Columbia, S. C., contonment and its immediate vicinity from malaria. It will arrange to do similar work at other cantonments all over the country.

Upon request of Dr. Frank Billings, head of the Red Cross Commission to Russia, the American Red Cross is sending a large quantity of medical and surgical supplies to meet the urgent needs of Russian military hospitals. The Commission carried with it $200,000 worth of such material, and $160,000 has been appropriated for this new consignment. Russia has had great difficulty in securing enough hospital equipment and supplies to take proper care of her large armies.

Volunteer For Service.

The following are a few more Virginia doctors who we learn have volunteered for medical service in the war: Drs. Thos. G. Hardy, Farmville; Bernard H. Kyle, Lynchburg; Nicholas I. Ardan, Bristol; C. N. Rucker, Clifton Forge; James Gordon Boisseau, K. D. Graves, B. L. Crawford, F. M. Hodges and C. L. Rudasill, Richmond; G. O. Crank, Madison Heights; H. C. Mallory, Greenbackville; Frank Levinson, Hopewell; Henry C. Bradford and Harry Seelinger, Norfolk; H. T. Nelson, Charlottesville. Six colored doctors, four from this city and two from Petersburg, have also applied for admission to the medical department and been sent to Ft. Thomas for instruction.

New Members of West Virginia State Health Council.

Drs. V. T. Churchman, Charleston; Luther H. Clark, Kyle, and Hubert E. Gaynor, Parkersburg, have been appointed members of the West Virginia State Health Council, to succeed the three members whose terms of office expired June 30.

Medical Director of City Hospitals.

Dr. G. Paul LaRoque has been appointed medical director of Virginia Hospital, City Home, and Pine Camp, the three hospitals supported by Richmond. The position is a new one created by the Administrative Board.

The Board has also elected Drs. Stuart Michaux and R. C. Fravel to the Virginia Hospital staff, to succeed Drs. W. Lowndes Peple and Robt. C. Bryan, now on war duty.

Shattered Human Bones Replaced.

We note that a surgeon of the U. S. Medical Corps, just returned from Europe, says that bones of goats are being used by surgeons at the front to replace shattered human bones. Another point of interest brought out by him was the fact that 1,000 of every 1,300 wounded men are able to return to the front for service.

Dr. W. W. Chaffin,

Pulaski, Va., has been appointed medical examiner of the Pulaski County draft exemption board to succeed Dr. J. W. Tipton, who has been called into active service.

Dr. Claude D. J. MacDonald,

Norfolk, Va., has been appointed medical assistant to the Norfolk Department of Health.

Attorney-General Elect Espoused Doctors' Cause.

In the recent State primaries for the coming elections, we note with pleasure the nomination of former State Senator John R. Saunders for the office of Attorney-General. Doc-

tors throughout the State will recall that in the fight which was waged for so many years for the repeal of State special license tax on physicians, Senator Saunders always favored the doctors' cause and spoke in their behalf. We trust he will continue to see that the doctor has a side in matters which may be brought up for decision and we feel we voice the sentiment of Virginia doctors generally in expressing gratification at the nomination.

Medical Society of Virginia.

"Lest we forget," announcements are continually being sent members of our State Society calling attention to the coming meeting in Roanoke, October 23-26, and the profession and citizens of that place assure us of a warm welcome. The secretary has sent postals to all members reminding them that titles of papers must be in hand at least five weeks prior to the date of meeting. The subject for general discussion will be "Diseases of the Bladder." It is also probable that a symposium on military medicine may be arranged. The president, Dr. George A. Stover, South Boston; secretary, Dr. P. A. Irving, Farmville; chairman executive council, Dr. Wm. F. Drewry, Petersburg; treasurer, Dr. Mark W. Peyser, Richmond, or chairman of committee of arrangements, Dr. E. T. Brady, Roanoke, will gladly give any desired information.

Dr. M. C. Sycle,

Of this city, was recently in Baltimore on professional business.

Dr. and Mrs. Waller Jameson,

Roanoke, Va., have been recent guests at Crockett Springs, Va.

Dr. R. T. McNair,

Emporia, Va., has been spending sometime in Chicago.

Dr. C. C. Haskell

Has returned to his home in this city after a visit to his brother at Sulphur Mines, near Mineral, Va.

Virginia Admitted to Birth Registration Area.

After special agents of the Census Bureau checked up and approved Virginia's statistics of births, the State was admitted as the first of the Southern States to the birth registration area of the United States. Formal notification of the fact was received early this month.

Dr. John F. Ragland,

Centralia, Va., at the recent elections held in this State, was nominated to represent Chesterfield county in the house of delegates of the General Assembly.

New Site for Retreat For Sick.

The board of directors of the Retreat For the Sick, this city, has acquired a piece of property in one of the best residential sections of the west end of the city, on Grove avenue near the Boulevard, for its new site. This property is 170x180 feet ind cost $28,000. Funds to defray the cost of the new hospital were recently raised in a public campaign. Plans for the building will shortly be completed.

Dr. Charles R. Grandy,

Norfolk, Va., has been named by Governor Stuart to serve on the Federal Judicial District Exemption Board of Eastern Virginia, as Dr. L. T. Royster, of Norfolk, who was first appointed, was unable to serve on account of sickness.

Dr. H. C. Grant,

Until recently of Crozet, Va., is now located at New Mouroe Building, Norfolk, Va., where he is associated in practice with Dr. Burnley Lankford.

Arrive at Tokio, En Route to Roumania.

A cable has been received announcing the safe arrival at Tokio, Japan, of Dr. Robert C. Bryan, and the other thirty-five members of the party constituting a Red Cross commission from this country to Roumania.

Dr. and Mrs. Mark W. Peyser

Have moved into their new home, 19 South Boulevard, this city.

Dr. Percy E. Schools,

Montross, Va., has been appointed by the Governor as a member of the draft exemption board of that county, to succeed Dr. G. B. Harrison, of Colonial Beach, who has been called into active service.

Care of the Babies.

The Health Department of Norfolk, Va., devoted its July bulletin to information about caring for the babies. They are facts simply stated which should prove helpful to all, and especially young mothers.

Dr. Carles A. Saunders,

Norfolk, Va., spent the month of July taking a special course in the surgery and diseases of the rectum, under Dr. Samuel G. Gant, at his office and private hospital in New York City.

Dr. and Mrs. Henry A. Bullock,

Richmond, left about the middle of August for a visit to New York City and Springfield, Mass.

Dr. and Mrs. P. S. Roy,

Washington, D. C., passed through Richmond recently, en route to Norfolk for a visit in that city and nearby resorts.

Army Base Hospitals

Have been established by forty-seven hospitals in the United States. These are fully equipped with physicians, surgeons and nurses and are ready for instant service. Each is capable of caring for the wounded of an army of 20,000. The staff and equipment of ten of these hospitals have already been sent to France.

Dr. W. W. Hargrave,

Surgeon on the U. S. S. Hannibal, and who graduated from the Medical College of Virginia in 1912, has been a recent visitor at his old home in West Point, Va.

Dr. and Mrs. William H. Higgins

Have returned to their home in this city after a trip to Kentucky and will shortly move into their new home at 1317 Park avenue.

Two More Ambulances Presented Virginia Troops.

Two ambulances of the required government type, fully equipped and with surgical outfits, have been presented the First Virginia Regiment of this city. One was the gift of the Jefferson Club and the other was donated by Mrs. James N. Boyd as a memorial to her husband. who was one of the most prominent citizens of Richmond.

Dr. and Mrs. T. Nash Broaddus,

Of this city, returned about the middle of the month from a motor trip to Ocean View, and Rappahannock and Essex Counties, this State.

Anesthetics and Surgical Apparatus For France.

Because of the shortage of anesthetics and surgical apparatus in France, the Red Cross War Council has authorized the establishment in that country, as soon as practicable, of a central plant to manufacture nitrous oxygen, which is considered most effective and harmless for short operations. American operatives and machinery will be sent to conduct the plant. The Red Cross will also establish in France a small factory for the repair of surgical apparatus and the manufacture of the more simple instruments. In the meantime, a large quantity of ether will be sent to France and also four men expert in the repair of orthopedic appliances. Necessary manufacturing machinery will be sent as soon as it can be obtained.

Dr. and Mrs. Francis R. Hagner,

Washington, D. C., were registered at Mountain Lake, Va., this month.

Dr. James Brent Anderson,

Of this city, has tendered his resignation as a member of the National Guard of this State that he may enter the medical corps of the regular army.

Dr. K. D. Graves,

City bacteriologist, who has recently received his commission as first lieutenant in the medical reserve corps, acted as chief health officer and city medical inspector of Richmond on two occasions this month, during the absence of Drs. R. K. Flannagan and Lucien Lofton.

Hospital Buildings at Camp Lee.

The thirty-two hospital buildings at Camp Lee, just outside of Petersburg, Va., are nearing completion. They are well ventilated,

thoroughly equipped and will accommodate 1,500 patients. About 47,000 of the draft army from Pennsylvania, West Virginia and Virginia, will be trained here. The bakery building, which will also shortly be finished, will have a capacity of 45,000 pounds of bread daily.

Dr. and Mrs. S. F. Pfohl

Have returned to their home in Winston-Salem, N. C., after a visit in Woodstock, Va.

Dr. Wyatt S. Beazley,

Of this city, has been spending several weeks with a patient at Battle Creek, Mich.

Dr. Arthur B. Harris,

Birmingham, Ala., representing the Roebuck Country Club, of that place, won the annual August golf tournament of the Asheville, N. C., Country Club, on August 11. Dr. Harris has many friends in this State, having graduated from the University of Virginia in 1902.

Petersburg Health Department Enlarged.

Under an ordinance recently passed upon suggestion of surgeons of the Public Health Service, the Petersburg, Va., health department has been considerably enlarged to improve sanitary conditions. Milk, food and sanitary inspectors have been appointed for each ward and five additional scavengers for the city. The idea is to put and keep the city in as healthful condition as possible, especially in view of the coming influx of soldiers and visitors.

Dr. James R. Spencer,

Formerly of Farmville, Va., has moved to Hollins, Va., to take up the work of Dr. Allen Black, who has entered the Medical Reserve Corps of the Army.

Dr. and Mrs. E. J. Moseley, Jr.,

And children, have returned from an automobile trip to Cape May, N. J.

Dr. A. G. Vaden,

Formerly of Mathews, Va., has moved to Temperanceville, Va.

Dr. and Mrs. James D. Kirk,

Roanoke, Va., have been visiting Mercer Healing Springs, W. Va.

Riverside Hospital Has Nurses' Home.

The Riverside Hospital, Newport News, Va., built by public subscriptions, has purchased a $7,000 nurses' home in order that the third floor of the hospital may be used for hospital purposes. Other changes and improvements to the extent of about $3,000 will also be made. The hospital is operated by physicians of that city, who are allowed to charge only enough for hospital service to operate the institution.

The American Association of Obstetricians and Gynecologists

Will hold its annual meeting in Newark, N. J., September 17-19, under the presidency of Dr. John W. Keefe, Providence, R. I. Dr. E. Gustav Zinke, Cincinnati, O., is secretary.

Wanted—Physician to take charge of practice in iron mines; comfortable house, delightful climate, good salary. Apply to B. Ryland Hudnall, M. D., Low Moor, Va.—(Adv.)

Obituary Record.

Dr. John Strother Pendleton,

For many years a prominent physician in this State, died at the home of his daughter in this city, August 14, and was buried at Marion, Va. He was a native of Smythe County, Virginia, and was seventy-nine years of age. He studied medicine at the Medical College of Virginia, Richmond, from which he graduated in 1861 and immediately entered the Confederate army and served as a surgeon throughout the war between the states. After this he located in Marion, where he practised until 1898, when he removed to Scottsville. In 1906 he was appointed surgeon to the State Penitentiary Farm, which position he held until failing health forced him to retire, For twenty-five years, until the two Richmond medical schools consolidated, he was a member of the board of directors of the Medical College of Virginia. His widow and three children survive him.

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CLEFT PALATE.*

By OSCAR WILKINSON, A. M., M. D.,
Washington, D. C.

Cleft palate consists of a cleft in the soft or the hard part of the palate, or in both. This separation of the tissues may extend even into the nose and the upper lip, producing hare-lip. The treatment of a cleft palate is essentially operative. The repair of a partial cleft of the palate—that is, a cleft situated behind the incisive foramen—is usually made by flaps of soft tissue adjoining the cleft. That the operations for cleft palates are not always successful is readily indicated by the fact that so many different operations have been devised for the relief of this condition, each one of which has its special advantages and disadvantages, no operative procedure as yet being sufficiently perfected to avoid failures; however, in the hands of experts at the present time the operation is usually successful.

The most popular operations for cleft palate are those of Brophy, Lane and von Langenbeck. Brophy's operation, which is particularly adapted to the correction of clefts in very young infants, consists of wiring the two parts together by means of a No. 20 silver wire and thus drawing the two bony partitions closer together, shifting, if necessary, the free border of the maxillary bone in order to approximate the anterior portions of the bones, leaving the soft parts to be repaired by a subsequent operation. This, as has been said before, is especially adapted to the correction of the cleft in the hard palate in very young infants. At the same time, the lip operation is done when the cleft runs into the lip. Brophy recommends that the bony palate be corrected first; next, or at the same time, the hare-lip be repaired and at a subsequent operation, say prior to the age of two years, that the soft palate be repaired.

The Lane operation is essenitally a tissue flap operation as there is no attempt to adjust the bones. There are several varieties of flap suggested by Lane for different widths of clefts.

The old von Langenbeck operation is the operation of choice today with some of the best operators (Blair) in the older children and in adults. This consists of the elevation of the flap from the cleft up to the molars and the sliding of the flaps to the center and suturing through with or without a stay suture. A stay suture in this operation is omitted in cases in which the palate cleft is narrow and the arch of the palate is high. In such cases a sufficiently loose flap can be secured from the two sides to bridge the cleft, making the stay suture unnecessary as the flaps in these cases are loose and can be made to overlap one another. In cases where, for the sake of the blood supply and the nerve of the flap, one hesitates to loosen the flap more, the stay suture is indicated. The lead plates are too heavy and those of aluminum I have found more satisfactory.

D. V. Brown, of Milwaukee, has devised orthodontic apparatus for the correction of clefts in young subjects, and in our opinion the advances in the future treatment of clefts will be largely made along those lines. There is probably more original work being done along this line at present than in any other field.

Time at Which to Operate: The time at which an operation should be undertaken for the repair of a cleft palate will depend on several things. In babies, with the cleft of the

*Read before the Fairfax County (Va.) Medical Society, February, 1917.

lip, the repair of the cleft in the lip and of the hard palate should be undertaken at once for the purpose of enabling the child to obtain nourishment. The cleft in the soft parts can very well wait until the child is from one to two years of age. The time for operation in these cases may be determined by the condition of the child, the season, and the possible necessity which may be present in the individual case demanding an immediate operation or the postponement of the time. As a rule, the earlier the entire cleft is closed the better will be the speech, all other things being equal. There is no reason for delaying a cleft operation after the child is two years old. It has been well demonstrated that the repair of clefts in grown subjects always leaves impaired speech; hence, the importance of early operation. Besides, the younger subjects stand the operation better than old ones.

The following are some of Brophy's postulates:

Bone, at birth, is about one-half organic matter; hence, bringing of the separated bones into contact is easily accomplished.

The bones are not crushed, but bent or shifted into correct relations.

Surgical shock is less in young infants and hemorrhage is slight.

The muscles are brought into action early; hence, they develop instead of atrophy, as they would if left un-united.

In early operation, there is much less deformity, all the tissues, bony as well as soft, developing naturally.

Early operation permits the normal development of the function of speech; the child will be better nourished; hence, better developed in every way.

There are a few essentials which are necessary in cleft palate operations. All the requisites of good surgery are necessary in cleft palate work. Here I mean strict aseptic preparation of all assistants and implements as well as the patient. The whole mouth and throat of the patient should be brought as nearly aseptic as possible and kept in that condition for two or three days prior to the operation. This can be done by having the mouth washed and the palate region mopped with a 15 per cent. solution of alcohol two or three times a day for two or three days previous to the operation. The same should be done to the palate, throat and teeth just prior to the operation. The general condition of the patient should be carefully noted and, where necessary, tonics given.

It is particularly to be desired in this operation that the blood vessels and the nerve supply be spared as much as possible, as too much destruction of these will cause sloughing of the flaps and thus bring about disastrous results. Another essential,—one which is just as important as the preservation of the blood vessels and nerves,—is a free flap, which necessarily calls for a good deal of traumatism. Here comes in the judgment of the operator. On the one hand, he must have a free flap; on the other, he must not destroy the blood supply to his flap. He needs anatomical knowledge, surgical skill and keen judgment, and the lack of either will bring disaster. It can, therefore, readily be seen that good surgery and good judgment are essential in cleft palate work.

The after-care is about as important in these cases as the operation itself. If there have been any faults with the average surgeon, particularly in cleft palate work, it is the use of improper after-care, or no care, of his patient. Any case which is permitted to acquire an odor in the mouth is a neglected one. Even the worst spoiled child, as a rule, can be taught to permit its mouth to be gargled and cleansed with a weak alcoholic solution or even the use of dioxogen at times. This, as previously stated, should be taught the child prior to the operation and if the child is old enough it should be taught to gargle beforehand and impressed with the importance of cleansing the mouth. In children too young to gargle a weak solution of phenol and iodine should be applied to the cleft two or three times a day by one experienced in that kind of work.

For the first twenty-four hours after the operation nothing but water, cracked ice, or albumen should be given. After that period, broths and milk might be added, but the milk should be well pasteurized and the mouth should be thoroughly cleansed after such foods have been taken.

Close confinement in bed is not good for these children. If they can have access to a

sun parlor or open air within forty-eight or seventy-two hours, it is always best. There is no particular harm in permitting a small child to be taken into some one's lap at times to prevent it from becoming restless.

Conclusion: I wish to urge the importance of early operations in these cases. The ultimate result of voice is infinitely better, the embarrassment to the growing child is avoided and the operation is invariably better stood.

1408 *L Street, N. W.*

MANAGEMENT OF CASES OF DIABETES.*

By ALEXANDER G. BROWN, A. B., M. D.,
Richmond, Va.

The management of the patient with diabetes has developed into a more or less standardized technique. With the work of Joslin and Allen, one scarcely needs to look further for a plan of treatment better fitted to meet the requirements of these patients, so far as our present knowledge goes. The management of diabetes is successful only when the urine is sugar free and the patient is free from acidosis. The cure of the disease is doubtful. If accomplished it is only in a small group of cases where the direct etiology is discovered soon enough to remove it. Early diagnosis, however, should always be sought. For one of the decided values of present-day fasting and diabetic management is the early diagnosis.

Diabetes mellitus is on the increase and some observers of this disease maintain that if its rate continues for the next thirty years, as it has during the past thirty, it will equal tuberculosis in incidence. One writer, after making a speculative calculation, estimates that there are now one million diabetics in the United States.

To get this diagnosis early, it is necessary for physicians to insist upon a urinary examination in all patients. In order to secure the quickest results it should become the practice of all various specialists in medicine and surgery—including dentists, eye, ear, nose and throat specialists, surgeons, neurologists, gynecologists, proctologists, etc., to make or have made the simple tests of the urine. Were these specialists to realize their peculair opportunity and obligation, many unsuspected cases of diabetes would be discovered early.

Having determined that diabetes exists, it becomes the duty of the internist to make a careful study of the patient. Searching examination by every means at his command, should be made to discover the etiologic factor in the case: foci of infection about the head or face; in the mouth, nose, or ears; in the glands, thorax, or the viscera. Whether or not syphilis or tuberculosis exists is important. Careful inquiry into the faulty habits of the individual is essential. The study of the patient's stomach-contents, his blood, his renal function and feces sometimes throws light upon these cases.

The further management requires most painstaking instruction on the part of the physician to the patients. Diabetics must be instructed patiently, but thoroughly with the plan, purposes and even expectations of the fasting and diet-treatment. The patient, if an adult (and a responsible older person, if a child), should be given the duty of carrying out the details of treatment. By this method education and training of the patient is automatically conducted. The education of the individual in the weight, composition and caloric value of foods, and the significance of food to weight and strength of the body, gives these patients first-hand knowledge for the life-fight of living within the carbohydrate tolerance. The training in carrying on the treatment creates a strong tendency to overcome faulty habits of diet and daily life. In this way diabetic patients may be taught to know that treatment is dietetic and that it lasts through a life time, and that whereas the normal person may metabolize 400 grams of carbohydrate, only a much less amount may be taken by the diabetic.

The patient in nearly all instances may be assured of a prolongation of life in the severe cases; diabetic coma may, however, unexpectedly develop unless fasting is carefully practiced. He may be assured of alleviation of distressing symptoms: great thirst, hunger, polyuria, constipation, emaciation, mental depression, dryness of tongue, scanty saliva, swollen gums and the like. The treatment offers fair insurance against such distressing complications as carbuncles, erysipelas, gangrene, alopecia, pruritis, perforating ulcer of foot, neuritis, caries of teeth, arteriosclerosis, chronic nephritis, myocarditis, etc.

The technique of the management as out-

*Read before the Southside Virginia Medical Association.

lined by Joslin is the one easily adapted to most cases.

In nearly all cases, an initial fast of two days is sufficient to make the urine sugar free. This fast should be complete and the patient should be in hospital or in bed at home, carefully watched. During this time, water may be given freely. A cup of tea and coffee, without sugar or milk, may be taken if desired. Now, if in severe and unusual cases, sugar persists after forty-eight hours, serve the fasting patient with 300 grams of clear meat broth in divided portions during the day. If acidosis appears, the patient should have 0.5 c.c. of alcohol per kilogram (2.2 pounds) body weight each day in divided doses.

The patient should then be given sufficient diet only, as will keep the patient sugar-free and without diacetic acid in urine. It should be remembered that it is not the purpose to increase the weight of the patient, but to keep patient at sufficient low level of weight and metabolism as to keep patient sugar free and without acetone. The old idea that the loss of sugar, as seen in urine, should be replaced by fat feeding is not approved by this method. Fat tolerance, as sugar and protein tolerance, of the individual case, should be determined. It is desirable to have variety and bulk, without overtaxing metabolic powers. Few cases under this treatment need prolonged use of alkalies. The craving for "sweets" and inordinate appetite are noticeably absent. The patients should, after a proper preliminary course of treatment, be instructed personally in the principle of diet, how to examine the urine and how to maintain a low weight and keep up body temperature.

Carbohydrate tolerance is the first point to search for. After patient has fasted and is sugar free, give 150 grams of the 5 per cent. vegetables for first day. Each day add 5 grams of carbohydrates to the diet up to 20 grams. After reaching this amount, add 5 grams of carbohydrates every other day "passing successively upward through the 5, 10 and 15 per cent. vegetables and fruits, until tolerance is reached, shown by appearance of sugar, or until the carbohydrate intake amounts to 3 grams per kilogram body weight."

Protein tolerance is sought by giving the patient, after the urine has been sugar free for two days, 20 grams of protein (3 eggs), and then adding 15 grams of protein (meat), until one gram per kilogram body weight is reached, unless sugar appears.

Fat tolerance is determined by patient's power to keep weight at fixed point without progressive loss. Fat may be given 25 grams daily, in addition to protein food stuff which contains a little fat, until patient receives not over 40 calories per kilogram body weight.

With the reappearance of sugar, fasting should again be practiced for twenty-four hours or until sugar-free. Afterward, the patient may resume the diet previously given, only cutting down carbohydrates to one-half, and should continue on this for two weeks, and if sugar free, increase 5 grams of carbohydrate per week. Weekly fast should be practiced when tolerance is below 20 grams of carbohydrate; when above this on fast day, one-half quantity of carbohydrate and usual protein and fat foods are allowed.

Following are a group of selected cases illustrating some points in the management of diabetic cases:

Case 1.—Mrs. T., white, aged 61, weight April 10th, 1916, 111. pounds. Had diabetes for 12 years; had been under treatment most of the time. About two years ago, after an infection of the toe, had "blood poison" and foot and leg were amputated to save her life. During this time, among her chief symptoms were loss of weight and strength, serious infection of toe, which cost her her foot and leg, great thirst, distressing appetite, loss of hair and teeth, sciatic neuritis, recurrent attacks of influenza with extreme weakness, polyuria, pruritis and drowsiness.

When she applied for treatment she was asked to give me a statement of her usual diet. This consisted of oatmeal and cream, two slices of bacon, with tomatoes and cup of coffee (breakfast); of beef loaf, turnip salad with a small piece of salt pork, tea, baked apples with cream (dinner); of a slice of cold beef loaf, two slices of toast, apple, celery, salad and tea. None of this food was weighed. On this diet she showed a 2.5 per cent. sugar in the urine. The progressive downward course of the case was evident to herself and family.

The Fast. She was put in bed under care of a trained nurse. The first day of the fast she was given only 800 c. c. of fluid, consisting of water, tea and coffee (unsweetened). She voided 1500 c. c. of urine in first twenty-four hours of the fast. The second fast day she

received 720 c. c. of water, tea, coffee (unsweetened), and 15 c. c. of whiskey. The urine at the end of this day amounting to 1500 c. c., was sugar free and showed positive diacetic acid.

Tolerance Test. The third day she was given 150 grams of 5 per cent. vegetables (lettuce and asparagus), 15 c. c. of whiskey, 450 c. c. of fluid (water, tea and coffee). The fourth day the urine was sugar free and diacetic acid positive; she was then given 250 grams of five per cent. vegetables (cabbage and tomatoes), and 15 c. c. of whiskey—amounting to 99 calories of food. On the fifth day she was given 350 grams of string beans and 3 eggs. She complained of dizziness and nausea; she voided 1500 c. c. of urine. The sixth day a loss of five pounds in weight was noted; volume of urine voided in 24 hours 1440 c. c.; amount of fluid given 1350 c. c.; she received 400 grams of vegetables (spinach, tomatoes, and string beans), 35 grams of protein (eggs and beef), and 15 c. c. of whiskey, amounting to 515 calories; she reported pain in legs and back. Eighth day she received 500 grams vegetables (asparagus and tomatoes), 50 grams protein (eggs and lamb), 25 grams fat (butter), 15 c. c. whiskey—making 785 calories of food value. Twelfth day, she weighed 48.4 kilograms, passed 2640 c. c. of urine, received 750 grams of vegetables (beets, tomatoes, cabbage and lettuce); 60 grams of proteid (eggs and lamb), 120 grams fat (egg-fat, olive oil, butter and bacon), 15 c. c. whiskey—making 1650 calories in food value. Fourteenth day, she received 850 grams of vegetables (asparagus, cabbage, tomatoes, lettuce, beets, green peas); 60 grams of proteid (eggs and meat); 150 grams fat (egg-fat, cream, olive oil, butter, bacon)—making a food value of 1950 calories. She weighed 106.5 pounds. On the fifteenth day she received about 55 grams of carbohydrates, 63 grams of proteid, 151 grams of fats, and showed a positive sugar-reaction: the tolerance point.

She was fasted for twenty-four hours and sugar disappeared. On the seventeenth day she received 34.2 grams of carbohydrates, 60 grams proteid, and 150 grams of fat.

On the fiftieth day, she received one cup coffee, one cup tea, several glasses of water, whiskey, 475 grams of 5 per cent. vegetables, 5 grams 10 per cent., 70 grams 20 per cent. (potatoes), 40 grams meat, 45 grams butter. 30 grams bacon, ounce cream (no sugar).

On September 12, 1916, five months after treatment was begun, she weighed 110.5 pounds, showed no sugar in urine, and was taking 90.5 grams of carbohydrates daily, being an increase of approximately 30 grams in tolerance.

A letter from the patient, dated April 2, 1917, about one year since treatment started, says: "I am now very comfortable. My weight, which during the twelve years had fallen from 175 to 108 pounds, for the past year, has remained about 110 pounds. My thirst is normal. The food allowed satisfies my hunger. I am full of energy and enjoy life. Sometimes my appetite carries me beyond my prescribed diet. Then the old lassitude returns, and I suffer with dizziness, but a total fast of twenty-four hours puts me back in trim."

Case 2.—P. S., white girl, aged 12 years, daughter of a farmer, weight 85¾ pounds, very shy, timid, awkward. Parents were told of the disease only a few months prior to date of consulting me. Examination of urine showed 10 per cent. sugar. She was placed at once in bed and fasted, being given only water and tea (unsweetened). She was kept under daily observation (that is, daily examination of urine and prescription of diet), for 36 days. She was then sent home, no sugar having appeared. She was taking when sent to her home 111.5 grams of carbohydrates, 51 grams of protein, and 88 grams of fats, approximately 1,430 calories of food. On this diet she had improved in appearance, was satisfied with her diet, was passing about one to one and a half quarts of urine, and drinking same amount of water.

Case 3.—P. R., white, male, aged about 55 years, weighed 125 pounds. Lumber mill manager. Loss of weight and strength. Urine showed specific gravity 1,035. 3.7 per cent. sugar, and a suspicious diacetic acid reaction. He was sent to hospital July 11, 1916, and was fasted for three days, when urine became sugar free. He was given beef broth, 300 c. c., and one c. c. of whiskey per kilogram, body weight, during the last 48 hours of the fast. He was in the hospital for about six weeks. The urine remained sugar free till August 13th, reacting to Benedict's test on a carbohydrate diet of 92.5 grams (950 grams of 5 per cent., 150 grams of 10 per cent., 100 grams of 15 per cent., and 75 grams 20 per cent. vege-

tables), 3 eggs, 210 grams of meat, and 60 grams of butter, 6 ounces of cream and 30 grams of bacon.

A letter of August 30, 1916, states that he weighs 135 pounds. Letters at various times since tell of reappearance of sugar, which disappeared on fasting. The patient, in a letter of March 2, 1917, states that there is some tendency to a return of glycosuria.

Case 4.—Mr. R. R. D., white, aged 33 years, weight 96¾ pounds. Had diabetes for years; was operated upon at Johns Hopkins Hospital for stone in bladder. Consulted me October 23, 1916.

Urine showed 10 per cent. sugar; diacetic acid negative; was placed in hospital, where he remained for three days' fasting. Urine still showed sugar; he was removed to boarding house with three other diabetic patients and became sugar free. He had a marked diarrhea. His carbohydrate tolerance only reached 34½ grams, with combined diet of 3 eggs, 90 grams meat, 40 grams butter, 2 ounces cream, 30 grams bacon and 10 teaspoonfuls of whiskey daily.

When Mr. D. left for home, February 28, 1917, he showed a gain of weight, slight sugar (although it had been absent nearly all the time since first fast), a caloric food intake of 1,697 calories, with 83 2-3 grams carbohydrate, 63 2-3 grams protein and 85 2-3 grams fat. His diarrhea was much improved and his unnatural hunger relieved.

A letter from the patient, dated April 12, 1917 (about six months after beginning treatment, with 10 per cent. sugar), says: "I sent you a specimen this A. M., after starving 36 hours. I think there is a little trace of sugar but no acid. I could have gotten entirely free of sugar, but I got so weak I just had to eat something. I'm keeping up my starving once every week. I'm getting on very well, but still keep weak, but the weather and roads have been so I couldn't get out much. I think I'll feel stronger when it gets so that I can travel around more."

Case 5.—R. M., white, female, child, aged 10, weight 59½ pounds. Consulted me May 28, 1916. Mother observed in November, 1915, that child passed great deal of urine, getting up two or three times at night to void, that she ate large amounts of bread, and was very nervous. She was taken to a physician, who found sugar.

Patient was fasted from night of May 28th to May 30th, and became sugar free. During the fast she did very well, losing only two pounds. She remained sugar free till 21st day of her diet treatment. On the day before she received 650 grams of 5 per cent., 100 grams 10 per cent., 66 2-3 grams 15 per cent., 50 grams berries, 2 eggs, 45 grams meat, 25 grams butter, 15 c. c. oil, 4 ounces cream and 30 grams bacon, making a carbohydrate tolerance of 62.5 grams.

All during the summer and early fall (weighing in August 60¼ pounds), she apparently was doing very well. October 18th, she was receiving 1,285 calories of food, showing no sugar or diacetic acid.

On December 7th, sugar appeared and she was fasted; she again became sugar free. But from this time the disease progressed and she died January 31, 1917, in a diabetic coma.

Case 6.—Mr. C. P., white, aged 20 years, had diabetes for three years. Consulted me October 20, 1916. He showed 7.1 per cent. sugar; weighed 105 pounds. This patient was intractable and difficult to manage. Although he was placed in hospital under care of special nurse, he escaped and would not submit to fast. I was never able to get him sugar free. Every safeguard was thrown about him to secure a real fast, but he never became sugar free. The amount of sugar was reduced to 2.7 per cent. He was treated for three months with varied experiences. He died January 20, 1917, from a pneumonia, developed after exposure in automobile driving.

Case 7.—J. D., colored, aged about 25, was sent to me by Dr. Raiford. In the hospital he became sugar free on the third day, when he was given an increasing diet. He reached his tolerance in two weeks, on 1,350 grams five per cent. vegetables, with 3 eggs, 60 grams meat, 60 grams butter, giving him a tolerance of 67½ grams of carbohydrates. He was sent home after this, as he became very home sick. He has not been heard from.

1135 *West Franklin Street.*

INTESTINAL FISTULA—WITH REPORT OF CASES.*

By M. E. NUCKOLS, M. D., Richmond, Va.

A case of unusual interest to me suggested this subject, and although the ailment is by

*Read before the Richmond Academy of Medicine and Surgery, February 13, 1917.

no means common, it is so loathsome to the one afflicted and to those in attendance and in many cases so dangerous to life, that I thought it of sufficient importance to merit discussion.

Improvement in intra-abdominal technique and early operation for appendicitis and strangulated hernia have materially lessened the frequency of fistulae, but since so many conditions within the abdomen, that were in the past either not recognized or were treated medically, are now subjected to operative intervention, fistulae from other causes have probably increased. Mayo has recently called attention to a cause of duodenal fistula which is well worth consideration. He reports several cases following nephrectomy on the right side. If the pedicle is short and much thickened from inflammation, the ligature may catch a portion of the wall of the duodenum which at the time of operation is not identified. In a few days sloughing with leakage takes place. The action of the digestive juices increases the size of the opening and starvation rapidly follows. There is no attempt at spontaneous healing and early operation should be done to save life. Most writers, among them Deaver and Ashhurst, state that operative duodenal fistulae heal spontaneously. My case, however, coincides with the Mayo view.

Mrs. M., white, age 45, married, mother of one child, had no illness of interest until twelve years ago, when she had typhoid fever; since then she has suffered from time to time with indigestion. About January 1st, she developed diarrhea with slight jaundice, which was continuous until she entered the hospital, March 1, 1916. At no time during the past twelve years has she had pain in the upper abdomen. Chronic pancreatitis was suspected and operation disclosed an atrophied gall-bladder without stones, but with many adhesions; three stones were tightly impacted in the common duct—one near the entrance of the cystic duct, one in the retroduodenal portion and one at the ampulla of Vater. The duct was opened over the upper stone, which was removed. Attempt was made to force the other two upward into this opening and downward into the duodenum. Failing in this, a transduodenal choledocotomy was done and the stones removed. All had many facets, showing that there had been more than three stones and that they had formed in the gall bladder. It seems almost unbelievable that these stones should have become tightly impacted in, and others passed through the common duct without pain. Pneumonia developed on the second day and the crisis came seven days later. The outlook seemed more hopeful, but two days later, duodenal fistula developed which increased in size and in a few days all nourishment was passing through the fistula. Starvation rapidly ensued and death took place twenty-one days after the operation.

I believe that retroduodenal choledocotomy would have been the better operation in this case, and might have given a different result.

Fistula may result from anything that destroys the continuity of the intestinal wall. Traumatism and infection, either or both, are the usual causative factors.

Traumatic fistulae are rare. Injury sufficient to cause rupture of the bowel, as a rule, leads to general peritonitis and death, unless operated, rather than fistula. The case, however, that suggested this paper, was traumatic in origin.

J. L., white, male, native of Poland, age 40, laborer in a furniture factory. September 10, 1916, he was struck in the abdomen by a board twelve inches wide and twelve feet long, but was not knocked down and did not stop work for fifteen minutes. He then felt sick and faint, and was seen by his doctor, who found him markedly shocked. The next day he showed symptoms of peritonitis, which subsided in two or three days with the formation of a mass in the right iliac region. The mass increased in size, approached the surface and finally showed fluctuation. Twenty days after the injury, fluctuation was so decided and so superficial that the skin was incised by his physician. Fecal matter, instead of pus, appeared, and he was brought to the hospital the next day and prepared for operation. The opening in the skin was closed with a purse-string suture, and the surrounding skin cleansed and painted with iodine. An elliptical incision, at least two inches from the fistulous opening, was made, hoping thereby, to enter the peritoneal cavity away from the fistula and adhesions, but fecal matter had burrowed some distance beyond the opening in the skin. So, failing in this, the area was cleansed as well as possible by sponging, and the tract packed. The peritoneal cavity was then opened away from adhesions, the surroundings walled off, adhesions separated and the whole

mass delivered out of the abdomen. After completing separation of adhesions and exposing the opening in the bowel, it was found that the whole wall of the ileum near the ileocecal junction, except the mesenteric attachment, had been destroyed. The opening could not be closed without constricting the lumen, and as the bowel above and below had been damaged by separation of adhesions, eight inches was resected and end-to-end anastomosis made with the Connell suture. Drainage was introduced and the wound closed with through and through sutures as infection was present and approximation was difficult, due to the wide resection of the abdominal wall. Some distension was present the next day, but convalescence was satisfactory and recovery was complete.

This case is of particular interest to me. It shows the wonderful protective powers of nature in some cases. Why this man, who evidently had a large rupture of the ileum, did not develop general peritonitis and die, or why he did not later develop obstruction, is more than I can explain. It may have been due to individual resistance or to the location of this particular portion of the bowel at the time of the injury. The latter would seem more probable, as the bowel was found tightly adherent to the iliac fossa just above Poupart's ligament.

Operative fistulae may be intentional or accidental. When intentional, they are often life saving, and may tide a patient over a crisis, when later a more radical and curative operation can be done with safety. Recent writers have impressed the importance of the two stage operations in both acute and chronic obstructions, especially in malignant disease of the large bowel.

Accidental operative fistulae usually result from errors in judgment in selecting cases for operation, or from inability to decide as to the best operative procedure during the operation, or from faulty technique.

It will not be out of place to call attention to some of the fruitful sources of this class of fistulae. Some of the most important are as follows: Imperfect suturing of perforations, imperfect suturing in resections, especially at the mesenteric border, and neglect to see that the blood supply is ample; careless and hasty separation of adhesions by blunt dissection rather than by cutting; returning to the abdomen, in operation for strangulated hernia, bowel of doubtful integrity; failure to resort to omental grafting when peritoneal surfaces cannot be properly apposed, and attempting to do too much in late cancer and tubercular peritonitis cases. By observing the foregoing suggestions, some lives may be saved and many made more comfortable.

Infection plays an active part in the causation of fistula, either by producing ulceration with slow perforation, or by thrombosis with necrosis. Long continued pressure of drainage tubes in suppurative appendicitis or pelvic suppuration is supposed by many to be conducive to fistula. This is probably true, but it seems more rational to believe that infection with the added traumatism at the time of operation is the principal factor.

Fistulae following appendicitis are more frequent in the cecum and heal spontaneously. This is true of all accidental fistulae of the large bowel. The explanation of this is probably the large lumen, the more solid contents and the short mesentery, permitting little mobility, thereby preventing angulation. Fistulae of the small bowel are followed by starvation, the higher the fistula the more rapid the starvation. Spontaneous healing is rare. Failure may be explained by the small lumen, fluid contents and long mesentery, permitting free mobility and angulation. These cases should not be temporized with, for early operation is demanded, whereas large bowel fistulae should be treated expectantly.

In the few cases that have come under my observation, one thing has impressed me very forcibly—marked resistance to infection. I do not know that this is universally true.

Since the advent of asepsis and improvement in technique, the detailed methods for the cure of fistula advocated by Grieg-Smith have been abandoned. The use of the enterotome for the elimination of spurs is not without danger and to a large extent has been discarded.

The method described by Binnie seems applicable to all cases. Contamination is avoided, and the work is done without the abdomen under inspection. The main points in the operation are closure of the opening in the skin, elliptical incision wide of the fistula, entering the peritoneal cavity away from adhesions, encircling the fistulous tract, delivery from the abdomen of the mass, packing off with towels, separation of adhesions, clamping the bowel above and below, and treating the fistula either

by transverse suture or resection, as seems best. Drainage is not used unless infection or leakage is feared.

Three other cases of fistula, which failed to heal spontaneously, will not be reported in detail. They were all of the ileum. Two followed appendicitis and were cured by suturing without resection. The other case followed operation for strangulated hernia by a country doctor. The gangrenous bowel had been cut off and fistula established. At operation the ileum was found cut close to the cecum, too close for end-to-end anastomosis. The cecum was resected and end-to-end anastomosis of the colon and ileum done. The patient recovered and was cured of his hernia, and is now living and well. This case was operated on twelve years ago, but should I operate on a similar case now, end-in-side or lateral anastomosis would be the operation of choice.

1614 *Monument Avenue.*

A REVIEW OF REFLEX, PHYSICAL AND ELECTRON DIAGNOSIS AND THERAPEUTICS. [THESIS No. 2.]*

By H. E. JONES, M. D., Roanoke, Va.

In Thesis No. 1, read before the Roanoke Academy of Medicine, November 20, 1916, the writer stated that from the electron theory of matter and energy, and from the proven fact that every variety of matter and energy has its special *electron rate of motion and vibration*, all science, and our profession in particular, has made rapid strides, which, unfortunately, many of us are not keeping up with.

New diagnostic methods and new medicinal and mechanical therapeutic measures have been formulated and proven, that will revolutionize our ability to *diagnose and treat diseases.*

The author stated in article No. 1 that it was written preparatory to and for our better understanding and practical use of the one to follow.

In the discussion of that paper, the fact was brought out that there were two divisions of polemic debaters and commentators, viz.: the pros and cons. By the former, some approval and belief was shown; by the latter, one disputant claimed that the author had thrown off all restraints and discussed all subjects, but that he (the disputant) did not believe in the electron theory, and proceeded with the facts he had at hand to reason and prove his disbelief.

In the reply by the writer, it is believed the audience was convinced of the soundness and correctness of the electron theory and its practicability. (See under the head of "The Ethics of Scientific Controversy.")

One has said in part that there are two distinct types of controversial writing and discussion: In the one, the materials on which the inductions rest are revised, new data being brought forward, and data which ought never to have been accepted, being discarded; also, fallacies are exposed; issues which have been tangled up together are unraveled and, throughout, the prescriptions of logic and intellectual morality are observed. In critical comment of this kind, every one, of no matter what school of thought, will gladly be a partner. But, in the other type of writing or discussion, there is also polemical writing with which no one would willingly be associated. No one wants to be associated with controversial writing which takes its stand on erroneous data, which, no matter how intricate the facts, tells you that they can be construed in only one way, which then introduces confusion by using undefined and ambiguous terms; tangles together issues which are logically distinct, and shows an intention to hold out everywhere against no matter what pressure of cumulative evidence. In such writing or discussion, we have a commentary of each kind; in the first type, that which all clear and honest minds on either side will accept and approve, and on the other hand, the second type, that which will not be accepted and approved. The positive fact remains that, between two disputants, the antagonist and protagonist in polemical discussion, a warfare exists from which the one or the other has got to emerge discredited, especially if his writing or discussion is based upon the second type of controversial discussion.

In writing Thesis No. 1 (and in the discussion), the writer followed the first type and also followed this type in writing this, the second article, if for no other reason than that the articles may have intellectual value and pro-

*Read before the Roanoke Academy of Medicine, April 2, 1917, and by title before the Southwest Virginia Medical Society, at Pulaski, Va., June 24, 1917.

mote intellectual progress in our theoretical and practical line of investigation and practical application of our knowledge to suffering humanity.

In dealing with new and old complicated subject matters, trustworthy deductions are reached only when we look at known facts from opposite points of view; and those who have open and unprejudiced minds will be able to learn something from the disquisitions. An effort will be made throughout not to lead one into fallacy nor into logical pitfalls, oratorical traps or verbal snares.

In the generalizations, the endeavor will be made to make the reasoning as simple as possible and will try to assign to every term its precise meaning and quantitative value. The writer will only *consider acceptable and proven facts* in this thesis and in the discussion, to make you see and understand this subject as others understand it. If one does not have public reputation to designate him for a leader, or popular estimation to give driving force to his words, still if he possesses a gift of getting at the truth and does it honestly and it is based upon accepted facts, it will show that he is competent and logical and will give way to others if he cannot conscientiously hold his ground through and by intellectual honesty. In these events, he will be credited and the subject matter under discussion will be more vivifying, interesting and valuable. What is wrong with many members of every organization is that there is hesitancy to involve themselves in dispute for fear of offending private or public sentiment: and thereby many a person is allowed, who has neither a "gift at getting at the truth" nor intellectual morality, to continue in the pleasures and benefits of authority. If all of the real facts are brought out (pros and cons) in a difficult subject, it will give one the power to adjudicate the competency of the disputants who are approving or opposing the subject under discussion, granting, though, that both are honest in the facts and reasoning brought to bear in defense on either side.

It is said by the Christian world that, of all men, He who has been the greatest benefactor to humanity and civilization, is the Christ. If that is a proven fact, it is also a proven fact that the next in the order of greatness along beneficial lines for humanity and civilization is the all-round, fully educated, up-to-the-minute, regular physician, as an individual, and collectively, the regular medical profession. This is not said because the essayist is a member of that class, but it is said as a result of reading, observation and experience.

Gross Diagnosis.—All of us know the amount of difficult work it requires to make a direct or differential diagnosis of a functional or organic disease. The field is so broad that it would require a volume to elucidate all that the subject demands. Therefore, to remain within a reasonable limit of space and time, the subject will be practically confined to two of the sub-divisions of diagnosis and therapy. Hence, you are referred to many texts, with most of which all of you are familiar.

After getting a patient's history, and a general ocular inspection, considerable data are gained upon which the structure of a diagnosis is to be reared. Of course, the next best data to be gained are those that are acquired from a thorough physical examination of every portion of the body—from the crown of the head to the pedal extremities,—secured by objective evidence and symptoms, and by elicited and excited subjective evidence or symptoms. The next best data towards completion of the structure is the evidence secured by means of a well equipped chemical and physical laboratory, and, last, but not least, the evidence secured by the *electron method of investigation.* To be able to secure all the data for a diagnosis by the methods enumerated above, it is not only incumbent upon us to be familiar with and have a working knowledge of all the primary, practical, related and associated branches or divisions of medicine, but it is also necessary and our duty to be familiar with all the correlated sciences, especially *physics* and *chemistry*—synthetic, analytic, physiologic, biologic and sub-atomic. From physics and chemistry we are to gain essential knowledge (without which we are helpless) of the ultimate structure of organic and inorganic, or simple and composite matter and the elemental forces, with a working familiarity as to their source, properties, laws, their inter-dependence, their inter-convertibility and universal and necessary association with one another and their

practical applicability and usefulness. To make a gross physical examination of all the greater organs of the body, several instruments are necessary: first, plexor and plexormeter; second, a phonendoscope or probably better still an audion amplifier, or a vacuum tube amplifier. By this instrument, it is said, the fall of a feather sounds like the thud of a wrestler to the mat. The inventor, Prof. R. B. Abbott, instructor in physics in the University of California, claimed that the sound of a leaking valve of the human heart will be amplified from 100 to 10,000 times, and the making of a record direct from the heart will be possible for the first time. This will, possibly, also apply to the other organs. If so, many of the older and less refined instruments can be dispensed with, so let us secure the new instrument; third, a phonendo-plexor-meter-phone; fourth, two hammer and one electric concussor; fifth, single and double radicular pressor; sixth, sphygmomanometer; seventh, vibro-suppressor; eight, X-ray and fluoroscope and necessary low and high tension electrical apparatus, with all needed electrodes.

We can and must learn to use all or most of these instruments. We must be able to interpret the different types of sound, pitch, timbre given off by the various organs, as does Paderewski, who is capable of interpreting the many sounds of a piano when rendering difficult music. Just as he does, we are to learn them by practice, practice, practice. Time will not permit us to go into the respective use and manner of operating all of the above named instruments, but it is fitting to briefly define the difference between objective and subjective physical elicitation of evidence or symptoms of the greater organs of the body, as the latter method is of comparative recent date, and is not in the text-books.

With the plexor and plexor-meter we detect the state or condition of the organs, *not by the aid of the patient*, but by various notes given out by the organs according to their size, density, resonance, or vibratory pitch in both health and disease, which is objective evidence.

With the rubber hammer concussors (writer's observation), we detect the state or condition of the organs, *by the aid of the patient*, by producing deep vibration or vibration of the organs, which elicits pain, quickly manifested to us by facial expression, attitude, or an outcry, or verbal expression. The pain elicited is of all degrees, from that which is hardly perceived on up to severe and excruciating, depending on the blow, the degree of sensibility, of inflammation, or general pathological condition of organ or organs. We soon learn by practice and experience the difference in pain or discomfort elicited in both health and disease: this is subjective evidence. With this latter method we soon learn the use of the concussors for the elicitation of objective evidence as well, but not in so delicate a sense as with the plexor and plexor-meter. With the radicular-pressor we can ascertain which organ or organs is or are diseased, by the elicitation of evidence from the cerebro-spinal nervous system; and this is also subjective evidence. By these methods we soon learn, in the case of double organs, whether one or both organs are diseased, and if one, the particular one diseased. A good example, and an important one, is in disease of the kidneys. If one of these organs is diseased, it is important to know, at short notice, which one is affected. In this instance, if it is shown that one organ is sound, the prognosis is favorable, or in case the diseased organ requires surgical measures, the surgeon knows on which side to make his incision. If both organs are found diseased, the prognosis is more grave and the real physician knows, under such circumstances, what to do and how to handle, treat and advise his patient. So much for the hints at the gross methods of diagnosis.

Medium Methods of Diagnosis.—We have an anatomical and physiological knowledge of the cerebro-spinal and sympathetic nervous systems and we should be well informed on the functions of both systems and should know that all the organs of the body are the organs of the nervous systems, and it is through and by these that we live and manifest ourselves in the medium in which we exist. We know, also, that the *genus homo* is a reflex animal.

In the old, regular line of physical examinations, the following reflexes have been discovered and utilized by the profession for a long period of time for the diagnosis of diseases of the nervous system.

"Demonstration of a reflex is conclusive evi-

dence of an intact reflex arc." The order of importance of the reflexes is as follows: patella reflex, Achilles', ankle clonus, triceps, plantar, jaw reflex, cuti-reflexes, cremaster and abdominal.

All of us know the meaning of an intact arc reflex and the significance of the decreased, increased and the exaggerated reflexes, and the absent reflexes. We know all these point to disease of the brain, spinal cord, or both, muscular system, and, in some instances, to the sympathetic nervous system.

Just as these different reflexes have motor and sensitive centres, in connection with brain and peripheral surface and with afferent and efferent nerve tracts, just so all the organs of the body have their reflexes, and we can examine into their condition through their respective centres. Through the centres and nerve tracts we can influence them by various therapeutic measures, both medicinal and mechanical. By these latter methods we are enabled to apply curative measures to the centre and nerve tract and to the organ supplied by them. Each organ is enervated by two centres, exciter and depressor. Hence, if we know these centres, and their location, and when these are out of harmony or balance, and one or the other or the nerve tract is diseased, we know where to go and how to treat and correct the affected centre, nerve tract and diseased organ.

Refined Methods of Diagnoses.—For the more refined diagnoses, we will have to examine into physics, which, for our purpose, was fully treated in Thesis No. 1. A resume and abstract will be appropriate here, and is as follows: First, all matter is evolved from the forces, the electron, the atom and the molecule. In one instance the elemental forces and elementary matter are composed of the electrons; in the second instance, of electrons and atoms.

All compound bodies are composed of electrons, atoms and molecules in combination with force. An atom is composed of innumerable electrons, stored up with prodigious energy. A molecule is the smallest portion of a compound body, which is made up of a number of different kinds of atoms. The electrons of all matter and force are the same. The world and its surrounding atmosphere consist of all the elements and forces in myriad combinations. The forces and elements are correlative and interchangeable and associated and the forces are inter-convertible. All matter is force and electricity: one says that it is ether in a different form of motion or vibration from that which it is undergoing in the depths of space. Ether is an elastic solid with no cohesion of particles. There are many physical entities and forces that the unaided senses cannot recognize, but *can be with the aid of suitable physical instruments.* It requires many millions of molecules to form a living organism.

The atom is not indestructible; it is destructible and capable of divisibility.

Life is an electro-magnetic force. Life signifies energies and forces resident in and acting on material substances and is developed by the earth and sun. Electricity and life are identical. Forces of organic and inorganic matter are the same. Each molecule of tissue is a molecular magnet and is a rotating portion of electrified matter. Each cell of tissue is a congregation of vibrating atoms, which are built up from electrons; the latter are charges of electricity. All atoms are radio-active. Electrons are characterized by the *uniformity of their vibration.* Electrons revolve thousands of billions of times per second, creating an electro-magnetic field of energy in all matter and force. Energy is substance in motion. Each special type of matter and energy is a vibrating motion of electrons and has its special rate of vibration, and yields a force which penetrates through most all media,—which can be measured, conducted, stored and identified. Physiologic action is associated with electrical phenomena. The infinitesimal particles (electrons) of color and odor cannot be detected by chemistry, but can be by their vibratory rate with a delicate instrument called the byodinamometer.

The *genus homo* is evolved from electrons, atoms and molecules, and each of the *special tissues has its special amount of electro-magnetic energy, polarity, and rate of vibration,* which is *different* in health and disease. From the above laws, qualities and properties of forces and matter, we have the key to the means by which we can apply the *proven electron theory, in a practical way, for the purpose of electron diagnosis and electron therapy.* By

this means of diagnosis, with suitable instruments to detect the different forces *generated by, and the rate of vibration and polarity of each special type of matter*, we can distinguish one disease from another or one neoplasm from another as easily as we can distinguish one animal from another. In other words, the body and its organs can be manipulated and examined with as much exactness and facility as an expert machinist can manipulate and examine a machine. Nothing has been so revolutionary in diagnosis and in therapy as the practical use of the electron theory and vibration rate of matter and energy. It has largely taken the place of the laboratory methods of investigation (which is complicated and time consuming) on account of its simplicity, scientific exactness and economy of time. It is no longer necessary to make the Wassermann test for syphilis, the Widal for typhoid, the Abderhalden for cancer, or the microscopical tests for tuberculosis, gonorrhea and all the other infectious and contagious diseases. It can all be done much more easily and in a shorter period by the electron rate of vibration and energy generated, detected by delicate instruments made for the purpose. One has said, it is many years since the medical profession has shown such interest in any new discovery as they have in the electron diagnosis and treatment.

It is not the novelty of the method that interests the progressive physician, but the great field opened to him. To be able to diagnose at the very beginning, tuberculosis, carcinoma, syphilis, pus formation and so on, and not have to rely upon doubtful laboratory methods, is almost beyond comprehension or belief. This system of diagnosis and treatment reaches cases where the old methods fail. Just as the electron method of diagnosis can be used in conjunction with our older methods of diagnosis, just so the electron therapy (drugs and mechanical) can be used in conjunction, and as a synergist, with our older therapeutic measures. "Contempt prior to examination has relegated to oblivion many important truths." The Pasteurian spirit is that if you do not know, investigate. In these newer methods, you will not have to originate; it is only necessary to investigate the literature on the subject, to which you will be referred, and all that is necessary is for you to learn to apply it.

The instruments used in making the refined diagnosis by the electron method are the following: (1) Two special aluminum electrodes, connected by a conducting wire three or four feet long, to convey energy to the organ, or from the patient to any one of the delicate instruments of precision used for detecting vibratory rate, wave-meter index, and potentiality of any tissue in health or diesase, and to ascertain the kind of force, its quantity or amount, its polarity—positive, negative or neutral; (2) a biodynamometer, for registering in ohms, or fractions thereof, the biodynamic force; (3) reflexophone, to detect degree of resonance and degree of dullness and to determine the polarity of transferred energy and to recognize specific energy. When vibratory index and wave-meter index are desired, it has to be used in connection with biometer, which latter instrument is used for measuring radiations; (4) energometer, for measuring energy; (5) sphygmobiometer, for detecting strength of heart and other organs and regulating the voltage of energy and to convey energy to any organ; (6) sphygmophone, for detecting conveyed energy from an organ or blood vessel, when connected with the latter through a plethysmograph, an instrument for getting the energy transmitted from a blood vessel; (7) psychophanometer, for detecting vagus nerve tone; (8) organotonometer, employed for interpreting and confirming sounds, elicited by percussion, and demonstrating energy. There are a few others, but it is not necessary to name them here.

The essayist has learned, theoretically, the electron diagnosis and electron therapy, in their gross, medium and refined forms, but has a working and practical knowledge only of the gross and medium forms. As soon as possible, it is his intention to secure the necessary refined instruments, so that he can put into practical use, the refined forms of diagnosis and therapy. As stated above, the vibratory rate and potential energy and polarity have been ascertained of the different tissues and organs, in health and disease, and of the body as a whole, and can be and are expressed in figures.

As examples: Carcinoma has wave-meter index of six, and vibratory rate of 50, polarity

positive; chronic inflammation, 15 and 40, polarity positive; syphilis, seven and 20, polarity neutral; auto-intoxication, 10 and 10; tuberculosis, 15 and 15, and neutral; pus, seven and 15, and negative polarity.

By means of pathotelephony, when the distal telephone is connected with an instrument for the detection of force, vibratory rate, wave-meter index, etc., as the reflexophone, biosphygmomanometer or energometer and biodynamometer, pathological energy from pus, syphilis, tuberculosis, cancer, etc., can be conveyed over long distance (as much as 475 miles has been verified), and the conditions can be diagnosed by the physician in distal or receiving stations. This is mentioned to show the refined exactness and possibilities of this method of diagnosis; which means that we have found a method of diagnosing and treating many obscure diseases that have heretofore been hard to diagnose and some impossible to cure. The fact that the polarity wave-meter index and vibratory rate and energy are changed in diseased conditions from the normal, shows that these changes must be brought to the normal before the disease can be cured.

One says: "The method has opened up a new field for research in diagnosis and treatment. The etiology of many obscure complaints can be determined and we can see reasons for many cures and for many remedial measures that have been employed empirically. They can now be applied in a scientific way and with a definite object in mind. These methods of diagnosis and therapy have been extensively tried by some of the most trustworthy medical observers."

The following are a few examples:

A patient had obscure hepatic symptoms; the electronic tests gave a re-action for pus at a definite area. Pus was aspirated in the situation indicated. An observer says: "The electron diagnosis is so exact and so true that it is working a revolution in the practice of the healing art."

In one of the universities of the West that has been equipped with instruments of precision for the electron diagnosis, Dr. E. M. Perdue, in charge of the laboratory, says that "We demonstrate, measure, control, and test the intensity and polarity of the emanation of human energy. These methods have been confirmed by microscopical examinations of the tumors. I have never seen the reactions fail or be misleading. I can say the same for syphilitic re-action and re-action for the determination of sex. These methods are so simple, scientific, exact and practical, as to make the methods of the laboratory obsolete and historic in medicine."

Dr. Geo. O. Jarvis reports a number of cases in which cancer was diagnosed by the electron test and confirmed at operation and subsequent microscopical examinations. He places absolute reliance on the electron reaction in tuberculosis and syphilis.

A man presented a "history of lumbago over a period of a year; at a clinic, the electronic test elicitated the reaction of sarcoma, which was localized by the test in question. A subsequent radiograph verified the exact location of the growth. Patient subsequently died from metastasis in the brain."

By these methods, a differential diagnosis is easily made of the specific infections and constitutional diseases, of diseases of the digestive system, and of animal parasites; of diseases of the respiratory and circulatory systems, of the kidneys and ductless glands, and of nervous disorders and neoplasms.

Electrono-Therapy.—All therapeutic measures, in both a gross and subtile sense, are mechanistic without a single exception. Drugs and the physical forces (light, heat, gravitation, magnetism and electricity) are material and real, and possess in common the properties of rate vibration, polarity and potentiality.

Paradoxical as it may seem, as compared to the real, gross, physical, diagnostic and therapeutic measures, the electron, which enters into the basic formation of all matter and force, is physical and mechanistic, and can be used and manipulated in a physical way and utilized for therapeutic purposes, as well as any of the gross physical things.

Rate vibration, polarity and potential, are the properties of the electron, whether it enters either into the formation of gross matter, or in subtile or infinitesimal matter, and these are the properties, physical, that we utilize for both diagnostic and therapeutic purposes.

The object of electron-therapy is to modify the physical condition of cell life for the better and "to provide defensive works against hos-

tile attacks;" to modify the vital soil to a point of strong resistance against any adventitious cause of disease and to modify the condition which causes disease. These procedures find expression in the modification of the soil either in cause or in disease, by change in vibratory rate and polarity.

"Harmony in nature is achieved by the neutralization of opposing elements." "Electron vibration aims to restore the equipoise of disease by re-arrangement of the molecules or by raising their vibration to a normal standard of frequency." Allotropism in chemistry "is the property of assuming more than one elementary form. The diamond, amorphous carbon and graphite are identical in composition, but show different properties, which is due to difference in *vibratory rate*, and by the latter the identification of objects is practically absolute."

The property of assuming more than one elementary form (allotropism), exists in the living tissues, and some diseases may be said to be allotropic modifications of each other.

"Pathology is called the physics of disharmonious vibrations." X-ray is negative, neutral, dulling energy and can be neutralized by the positive pole of a bar magnet. Eosin has a neutral, dulling energy with potential of 11-25 of an ohm. "Vibratory rate in syphilis is 20 ohms, and the rate for mercury and iodide of potassium is 50 ohms. The rate for pain is 20 ohms and morphine and cocaine have a like rate of 35 ohms." The antagonistic "vibratory rate is the curative factor." Malaria yields a positive dulling energy and is combated by quinine, which discharges a negative non-dulling energy. It has been found that pilocarpine is a better cure for malaria than quinine; both stimulate the vagus. The potential of pilocarpine is greater.

"The methods employed in electrono-therapy when polarity and vibratory rate action is to be achieved, are to determine the polarity and vibratory rate of the particular disease, and then employ an opposite or neutral polarity and antagonistic vibratory rate, or one attempts to secure a return of the normal tissue polarity and vibration rate."

The electron method of treatment will be illustrated in the management of the two diseases, tuberculosis and carcinoma.

In tuberculosis, "the lesions yield a negative, dulling energy with a vibratory rate of 15, with a potential of from 2-25 to 5-25 of an ohm in quiescent lesions; in active lesions the potential may exceed 10 ohms. Safranin has a negative polarity and a potential energy of 11 ohms. An alcoholic solution of safranin is painted on the site of a tuberculous lesion; the soil is modified by a negative energy; after cleaning the skin, make the application every other day. In pulmonary tuberculosis, the skin over both lungs is painted with safranin and the patient instructed to wear an undergarment of silk. In addition to this treatment, the fresh air, hygienic, and dietetic treatment is vigorously pursued." It is claimed by the originator of this method that the results have been phenomenal in incipient pulmonary tuberculosis.

Where there was no mixed infection, a symptomatic cure was usually achieved within six weeks. These results were dependent on an early diagnosis, by electronic tests. In advanced cases, excellent results were attained by this method of treatment. In laryngeal tuberculosis the infiltration evanesced in the majority of patients within three months by the use of safranin painted daily on the skin over the larynx. Dr. Geo. Jarvis reports two patients with pulmonary tuberculosis symptomatically cured within two months by aid of safranin treatment. Tubercular skin and gland lesions are cured with safranin. A young lady with cervical tuberculous adenitis of two years' standing failed to be relieved by medical and surgical treatment. Treated with daily application of safranin, the implicated glands evanesced within a week.

In carcinoma, the polarity is positive. The best results are gotten by the use of neutral energy-producing agents, viz., eosin, (aqueous solution) or Venice turpentine. Eosin is more penetrating than the X-rays. Potassium acetate and sodium bicarbonate, one drachm of each, t.i.d., are also beneficial, the latter impart to the blood a neutral dulling energy.

Ross, of London, and Packard, of Boston, attribute cancer to a lack of balance of the potassium and other body salts and claim that the disturbance conduces to malignant growth of epithelial cells.

Potassium iodide is used in central cancer

in large doses, 4 gm., with 2 gm. of sodium bicarbonate, and given in 100 c.c. water per rectum. This is supplemented with 1 per cent. solution of sodium arsenate, hypodermically. If temperature rises after rectal injection of potassium iodide, it is diagnostic of cancer.

Potassium displays a special affinity for cancer cells. With the above treatment, patients with internal cancer, who had the disease years ago, are still living. Operation for accessible cancer is advised. The efficacy of our therapeutic methods is due to the potentiality of the energy evolved. The energy co-efficiency of radium is comparatively small. 10 milligrams yields a potential of 22-25 of an ohm; solar rays, 5-25, X-rays, 11-25.

The different forms of energy in physiotherapy are placed on a rational basis.

Pharmacology of the Reflexes.—In the normal state, the cerebro-spinal and sympathetic nervous systems are in physiologic antagonism. The forces of each are balanced and we have healthful physiologic action. In increased or diminished tone of one or the other, an abnormal physiologic condition is induced, giving rise to functional disease; if long continued, constitutional or organic disease.

Heart Reflex.—Atropin abolishes and pilocarpine accentuates heart reflex. Bradycardia and arrhythmia caused by reflex excitation of the vagus are inhibited by atropin. This is likewise true in the vasomotor form of angina pectoris. Strophanthus by intravenus injection is the most rapid medicament for exciting the cardiac branches of the vagus. In cardiotonic angina pectoris, the symptoms are accentuated by digitalis and pilocarpine, but ameliorated by atropine, which intensifies the symptoms of the cardiostatic form. Cardiac pain in neurotics is inhibited by inhalations of amyl nitrite. Aorta is contracted by pilocarpine, dilated by adrenalin, and inhibited by atropin.

Vasomotor Reflexes or Contractions.—Amyl nitrite inhalations inhibit the majority of these reflexes. Diuretin is practically a specific in arteriosclerotic abdominal colic. In vagus hypertonia, the thyroids yield excellent results.

Splanchnic Reflex or Vaso-Dilatation.—Digitalis and strophanthin are endowed with the property of constricting the splanchnic vessels alone. Chromium sulphate is the most efficient agent for constricting the splanchnic vessels and is indicated in splanchnic neurasthenia.

Lung Reflexes.—These are mediated by vagal action. Atropin abolishes them; pilocarpin exaggerates them, and adrenalin accentuates only the lung reflex of contraction. Asthma is caused by increased vagus tone and this is also true of spasmodic bronchostenosis. Adrenalin is a specific in asthma and in spasmodic bronchial affections. Nasal sprays which relieve paroxysms act by eliciting the lung reflex of contraction.

Emphysema caused by vagus-hypertonia is made worse by pilocarpin; whereas, the atonic form of the affection is ameliorated.

Stomach Reflexes.—Pilocarpin accentuates and atropin abolishes them. The motor neuroses of the organ (crisis spasm, etc.), yield to an adequate dose of atropin; whereas, pilocarpin accentuates the symptoms. Adrenalin, by dilating the stomach, accentuates the symptoms of sympathetic irritation, and ameliorates symptoms caused by vagus-hyperesthesia.

Intestinal Reflexes.—Atropin inhibits and pilocarpin intensifies intestinal peristalsis. Many affections of the intestines are identified, either with an increased or diminished tone of the vagus.

Ocular Reflexes.—Eye-strain is equivalent to vagus-stimulation. Symptoms arising from eye-strain evanesce when the eyes are cocainized. Homatropin and atropin do not annihilate all the ocular reflexes.

Nasal Reflexes.—The nose is an important reflex centre and must be examined as a routine measure in determining the etiology of many diseases of vagal origin. Cocaine aids in the diagnosis of emphysema, asthma, dysmenorrhea, labor and gastric pains. Temporary relief is achieved by nasal cocainization and, perhaps, permanent relief by cauterization of susceptible areas of nasal mucosa.

Mechanical Reflex-Therapy.—Methods Employed to Spinal Centres:—(1) Concussion; (2) sinusoidalization; (3) high tension current (high frequency and static); (4) freezing; (5) vibration; (6) heat; (7) light; (8) massage; (9) pressure.

These measures, when intelligently selected and employed to spinal centres, as indicated and directed, will symptomatically relieve or

cure the neuroses and functional, constitutional and organic diseases. With these physical measures of therapeutics, pharmacological medication, hygiene and dietetics ought to be used as aids and synergists.

In three of four years' study of the subjects of *electron diagnosis* and *electrono-therapy* and the necessary scientific correlated basic literature, the writer has been entertained as by no other literature. Instead of being laborious work, it has been a recreation and diversion. Such study has enabled the essayist to understand the why and wherefore of things in general, and medical subjects in particular, as he never did before. In writing Thesis No. 1, and this, Thesis No. 2, all abstractions, descriptions, definitions, etc., were expressed in the phraseology of the authors named in the bibliography below:

Sir Almroth Wright, *J. A. M. A.*, Dec. 30, 1916; Geo. O. Jarvis, M. D.; Kelvin; C. S. White, M. D.; Erwin; A. Abrams, M. D.; Soddy; H. E. Jones, M. D.; O. Juettner, M. D.; G. R. Butler, A. M., M. D.; and R. B. Abbott, M. D.

Text: "The Universe and the Atom," Erwin; "Physical Therapeutic Methods," O. Juettner, M. D.; "Suggestive Therapeutics," Munro; "Diagnostic Therapeutics — Reflex-Therapy, and New Concepts in Diagnosis and Treatment," each by A. Abrams, M. D.; "Brain and Personality," Thomson, M. D.; "Electro-Therapeutical Practice," Neiswanger, M. D.; "A Review of Things Material," H. E. Jones, M. D., *Va. Med. Semi-Mo.*, July 27, 1917; "Medical Electricity and Roenten Rays," Tousey, M. D.; and "Electro and Physical Therapeutics," Monel, M. D.

A short practical paper, Thesis No. 3, will follow as soon as this journal can publish it.

506 *South Jefferson Street.*

OBSERVATIONS ON INFANTILE RHEUMATISM.*

By SAM WILSON, M. D., Lynchburg, Va.

The caption of our paper may appear to some an impertinence and to the "rheumatic nihilist" an absurdity.

Be that as it may, we hope we are an observer, and we think we are honest, and honest observation has convinced us that rheumatism is a very common morbidity of infancy and childhood.

We were taught in works on Practice of Medicine, that rheumatism is characterized by painful swollen joints, polyarticular, characterized by local and systemic elevations of temperature and so on—the clinical picture we all know. This is not the clinical picture as seen in childhood.

The things that lead us to think of rheumatism in pediatrics are bronchitis (spasmodic asthma), tonsillitis, recurrent rhinitis, eczema, recurrent urticaria, any form of habit spasm, or chorea, endocarditis, "growing pains," recurrent croup and acute stomach and intestinal crises. When I mention acute stomach and intestinal crises, I refer to those cases of so-called lithemic type, which are characterized by gastro-enteric effects entirely independent of intestinal and stomachic conditions. Text books denominate them "cyclic vomiting and cyclic diarrhoea." They are brought to the physician on account of the periodic attacks that the mother styles "indigestion," "biliousness" or "gastritis."

Given any one of the above mentioned ear-marks, with a history of rheumatism in the parents of the child, or a distinct gouty ancestry, we would strongly suspect that the underlying condition was one of rheumatism, or, as Osler would say, lithemia or the "lithemic diathesis."

Now, manifestly, no case presents the entire syndrome enumerated above; in fact, it is uncommon to get more than a single charactery, but given a familial rheumatic history, and we believe that point can not be italicized too strongly, and given a case presenting any one of the distinctive features of this symptom-complex, we would strongly suggest anti-rheumatic medication and an anti-rheumatic regimen.

Our experience has been, the outstanding features of this so-called rheumatic diathesis are lack of resistance to infection of the upper respiratory tract, these children suffering from chronic coughs, asthma, recurrent bronchitis, tonsillitis, and so on.

We would like to re-affirm the above statement in the following diction, and we believe the whole of this exigesis can be included in these words: *Repeated inflammatory involvement of the mucous membrane of the*

*Read before the South Piedmont Medical Society, at Lynchburg, Va., April, 1917.

upper air passages strongly suggests a rheumatic element as a very prominent causative factor in the case.

Illustrative Case.—J. K. M., age 10 years: Complaint—"Coughs all the fall and winter." When I expressed some doubt as to the authenticity of the mother's statements, she stoutly maintained that every year for six or seven years, the child had substantially coughed all the winter, in spite of cough remedies of every description.

The father, when a young man, had inflammatory rheumatism. One sister "suffered from rheumatism most of the time." The patient had an attack of rheumatism when two years old. I saw the child on September 6th, 1916. Examination of the chest showed distribution of mucous rales involving the smaller tubes. She was put at once on anti-rheumatic treatment. Cough at once began to abate, and she was discharged on the 26th, with no semblance of a cough. I lost track of the case until February, of this year, when the child entered my office, having been bitten by a rabid dog. Inquiry elicited the fact that the child had never had a recurrence of the cough since she was discharged; moreover, she had kept up the interval treatment, which we will elucidate later on.

We find most frequently that children with this rheumatic symptom-complex are the progeny of those who have been similarly affected. Repeatedly in taking histories, we have been impressed with that fact.

Reasoning from what might aptly be termed "the therapeutic test," we have been so impressed with the predication of unexplainable phenomena upon a rheumatic base, that we inferentially size up a case as rheumatic if it is occult, and if we can get a history of rheumatism in the child or its forbears.

Illustrative Case.—There moved to our environs, in November last, a Methodist minister. History briefly of his child's case is as follows: Age 4½ years; complaint, "suffers from headache all the time." Has had intense headache for two years, at first periodically, but now well nigh continuously. Had been treated by physicians in Richmond, but could get no relief. We sent her to oculist for fundus examination to exclude cerebral neoplasm. Report was negative, one brother, two years of age, complained a great deal of pains in his legs—"growing pains." Father was asked if he had rheumatism, and replied in the negative; asked if he had lumbago, replied, "yes, frequently." Father has now on dorsal surface of hands a violaceous eruption, evidently rheumatic, erythema multiforme. Mother had an attack of inflammatory rheumatism before she was married. Physical examination of patient showed nothing but a poorly developed anaemic and poorly nourished child. She was put at once on a strict anti-rheumatic treatment. I phoned the mother before I came down to this meeting, asking about the case. Her report is significant: "In ten days after treatment was begun, headaches stopped entirely during the day, though they did occur at night. Inside of thirty days the headaches ceased entirely and child has been free from them since." To understand what anti-rheumatic therapy did for this sufferer can only be appreciated by one who saw the intense suffering of the child during an exacerbation of the constitutional vice.

Now the proposition arises—have these children got rheumatism? They may not have rheumatism in the general acceptation of the term as applied to adult standards, but from a pediatric point of view they have got rheumatism. They are suffering from a toxic process that manifests itself in certain ways, and it is a process, a constitutional vice, that is relieved by a specific therapy.

Treatment—To cure asthma, spasmodic recurrent bronchitis, tonsillitis, and so forth, we are compelled to treat not those things *per se*, but to treat the constitutional vice upon which the pathological condition is largely predicated, and of which it is but a manifestation. The first and most important thing relates to the diet. These children can not stand sugar and cow's milk fat. They have, in the words of Kerley, "a poor sugar and a poor fat capacity." They can be given cereals and vegetables *ad libitum*. They can be given skimmed milk, buttermilk, skimmed milk puddings and stewed fruits. The nearer we approach to a vegetable and a cereal diet, the quicker will they get relief. Those cases that show the systemic intoxication by periodic attacks of cyclic vomiting, do not stand the yolk of an egg well, and it should be tabooed. We see we will have no trouble in establishing a liberal diet.

Kerley says, in many instances he has seen

children suffering from one or more of the earmarks of this syndrome, associated with anaemia and malnutrition, make astonishing improvement without any other treatment save cutting out sugar and cow's milk fat from the diet.

As a generalization in these cases, meat is allowed once every other day. As to drugs, we have been in the habit of prescribing sodium salicylate and sodium bicarbonate in combination, 5 grains each, t. i. d., to a child 3 years old, or larger doses if there appears to be a high degree of systemic poisoning. All the drugs, however, will avail little unless we exclude sugar and cow's milk fat from the diet.

In the interim between the attacks, the interval treatment should be kept up, viz., sodium salicylate or sodium bicarbonate alone or in combination, every other week for three or four months.

We would not close these observations without urging our colleagues to treat their cases of asthma, and so forth, along the lines previously laid down.

We could cite case after case to show where not even the magic wand of Prospero could effect a more singular change.

Suffice for exemplification a single case—A. T. S., age 2½ years. Mother "suffers a great deal from rheumatism" and father had an attack of inflammatory rheumatism several years ago. Mother says child has had bronchitis all her life.

Physical examination was negative, save for enlarged tonsils and asthmatic breathing and lung sounds. When the child entered my office, it seemed to have a typical attack of asthma. Thinking the trouble an acute thing, I asked the mother when did the child start to breathe that way. She replied the child had been breathing that way for two weeks and was never free from wheezing and difficult breathing.

We put the child on the treatment outlined above, and told the mother to return in five days. She did not return, however, for two weeks—"until the medicine gave out." Her report is striking. Child started to improve at once and cough stopped in less than a week and has no cough now. Mother says this is the first time that she can remember when the child did not wheeze and cough.

1324 *Church Street.*

Editorial.

Intermittent Closing of Cerebral Blood Vessels and Apoplexy.

There is a well-known group of cases which present such a characteristic clinical picture that the question of temporary closing of cerebral arteries may be answered in the affirmative. William Russell aptly compares it to a condition which has its legitimate place in medicine and is known as "intermittent claudication." The latter is due to an obstruction in the arterial supply when the muscles of the limbs are put into action. The analogy is evident if we apply the conception of this phenomenon to what occurs in the brain when intermittent, temporary or transient attacks of hemiplegia or monoplegia occur. These attacks of paralysis may or may not be accompanied by aphasia of equally transient character. Instead of complete motor hemiparalysis there may be only hemiparesis or a very slight weakness. Sometimes there may be repeated attacks of paresthesia on one side and each sensory attack usually leaves a slight feebleness on the same side.

The mechanism of the condition and the outlook in such cases are of enormous practical importance. It seems that besides embolism, thrombosis and hemorrhage which are considered as the classical causes of apoplectic strokes, there is also a condition which is of hemiplegic character, but which is produced not by a material lesion of the blood vessel, but by such a functional disturbance of the vessel wall as to interfere with the circulation and therefore with the function of the nerve tissue supplied by this blood vessel. The temporary character of this disorder of function, the prompt or rapid recovery from the interfered function, finally, and especially the intermittence and frequent repetition of the attacks—all these facts speak in favor of a condition which is totally different from a material obstruction of a vessel with an embolus or thrombus, or from a hemorrhage. For example, Lindsay Steven (Proceedings of Royal Society, 1907, I. Med. Sect., p. 116) speaks of a case with spasmodic contractions of the brain vessels and post-mortem no arterial disease was found but an area of white necrosis was distinct in close vicinity of the blood vessel.

From a series of 14 cases, eight of whom came to autopsy, cases in which repeated attacks of temporary paralysis with and without speech disorder occurred in a large number during a period of eight years, the following conclusion could be drawn: Intermittent paralytic conditions are due to an irritable state of the vessel wall which leads to repeated sudden occlusion of a blood vessel and to suspension of function of the parts supplied by it because of local ischemia. After a certain number of brief attacks have occurred, the subsequent ones show a tendency to a greater duration and when the latter takes place, the morbid motor phenomena become more conspicuous; otherwise speaking repeated suspension of function of the nervous tissue leads eventually to a real damage, not great, though, nevertheless, sufficiently pronounced to increase the functional disability of the affected limbs. When we attempt to consider the causes of transient contraction of blood vessels, we must bear in mind a number of factors. Among the latter the most important is the degenerative state of the blood vessels produced by syphilis, alcoholism and lead intoxication. Arteries in such cases are placed in most favorable conditions for degenerative changes. An irritative state is easily brought on. With years, a diseased condition of the vessel walls is established with the result of final thrombosis. The intermittent apoplectiform attacks could be considered as premonitory signs and warnings of eventual complete occlusion of the cerebral vessels by a diseased process gradually developing in the vessel walls themselves.

The consideration of the pathogenesis of the diseased process must naturally influence the practical side of its therapeutics. The diminution or possible avoidance of arterial irritability is the prime factor in management of cases of this character. Due consideration should therefore be given to metabolic changes, to accumulation of toxic products in the organism, to the problems of food, drink, habits, hygienic and dietetic elements in general; finally, to excesses—physical and mental,—all contributing factors in arterial disorders. Preventive measures are perhaps of greater importance with regard to the pathological condition under discussion than in many other forms of human ailments.

ALFRED GORDON, *M. D.*

Medical College of Virginia Base Hospital No. 45.

The official and professional staff of this base hospital has been completed. With the exception of Dr. F. C. Pratt, of Fredericksburg, Va., all the members are Richmond men and most of them are connected with the Medical College of Virginia in some official capacity. It is stated that the unit will not leave for Europe until the late fall or early winter. The Richmond Red Cross Chapter has offered to aid in financing this base hospital. Names of the medical staff are as follows: Director, Dr. Stuart McGuire, who is permitted to remain in Richmond to organize the base hospital and to perform his duties as Dean of Medical College of Virginia; adjutant, Dr. Jas. H. Smith, ordered to duty at Ft. Oglethorpe; registrar, Dr. Greer Baughman, ordered to Ft. Benjamin Harrison; assistant director and chief of surgical staff, Dr. W. Lowndes Peple, ordered to Camp Lee; staff surgeons and physicians, Dr. R. C. Fravel, permitted to remain in Richmond as assistant to Maj. McGuire; Dr. J. F. Geisinger, on active duty at Richmond as examiner for medical reserve corps and as acting adjutant of Base Hospital No. 45; Drs. A. L. Herring, J. Garnett Nelson and Dr. F. C. Pratt, of Fredericksburg, who will be ordered to service on staff of a cantonment hospital; Drs. Carrington Williams, Wm. T. Graham, H. P. Mauck and W. B. Hopkins, not yet assigned to active duty; Dr. W. B. Porter, now on active duty with the Fourth Maryland Infantry, at Laurel, Md.; Drs. J. T. McKinney and Fred. M. Hodges, now on active duty in school of Roentgenology, at Richmond; Dr. B. B. Dutton, now on duty at Ft. Oglethorpe; Dr. J. E. Warinner, Jr., on duty at Ft. Benjamin Harrison; Dr. Paul V. Anderson, now on duty at Neurological Institute, in New York; Dr. E. Guy Hopkins, application for commission in medical reserve corps now in Washington, and Dr. Charles Phillips, now on active duty at Rockefeller Institute, New York.

Ambulance Company No. 46,

Attached to the Medical College of Virginia Base Hospital, of which Dr. C. Howard Lewis, Richmond, is commander, is fast filling its ranks to the required strength. The four lieutenants for this company are Drs. O. C. Brunk and J. J. Hulcher, Richmond; Ray A. Moore, Phenix, Va., and Geo. S. Hurt, Roanoke, Va. This company has been the recipient of a

Belgian war dog, one of the dogs which have already done such a wonderful work in Europe in first aid and life-saving work. They are considered a valuable acquisition to every ambulance corps.

Little Pure Zinc Oxide on the Market.

Examinations made by the Bureau of Chemistry of the United States Department of Agriculture show that very little zinc oxide on the market in the United States complies with the standards of the U. S. Pharmacopœia. Nearly all of the samples examined contained an excessive amount of lead. The samples were labeled "Not U. S. P.—Containing Small Quantities of Lead," and therefore complied with the Food and Drugs Act. The labels on the packages in most instances will probably come to the attention of the druggists, but not to the attention of physicians. The medical profession will therefore not be advised as to whether or not zinc oxide preparations are made from standard ingredients. Conditions may arise where a zinc oxide preparation contaminated with lead may do injury. *A limited supply of U. S. P. zinc oxide is available and physicians may protect themselves and their patients from possible injury by calling for such material on their prescriptions.*

Medical Students Subject to Draft May Enlist in Reserve Corps.

Because of the importance of having a succession of trained medical men for military service, it has been announced that hospital internes who are graduates of well-recognized schools and medical students in the fourth, third and second years, in any well-recoginzed school, subject to selective draft, will be allowed in the reserve corps provided for by the national defense act and, if afterwards called by local boards, may be discharged on the ground that they are in the service of the United States. While this will not excuse men from appearing before the local boards when summoned it will defer the time of their entering actual service.

Virginia Doctors With Medical Officers' Reserve Corps,

Besides those already named in our pages are Drs. C. B. Crute, Farmville; R. B. Shackelford, The Plains; Geo. A. Noland, Ashburn; Wm. E. Knewstep and Wm. A. Howard, Hampton; Benj. B. Dutton, Winchester; Edward B. Noland, Rectortown; Minor C. Lile, University; George H. Musgrave, Boykins; R. L. Williams and Geo. A. Renn, Norfolk; Wyndham Blanton, Richmond; Bernard Barrow, Barrows Store; Howard Fletcher, Fairfax; S. T. Elliott, Danville; U. F. Bass, Fredericksburg; Otis T. Amory, Newport News; Jas. S. Burger, Hopewell.

Married—

Dr. Carroll H. Fowlkes and Miss Anne Sinton Beattie, both of this city, September 5.

Dr. Francis Page Nelson, Covesville, Va., and Miss Ruth Lee Wayland, Crozet, Va., August 30.

Dr. Carl W. Shaffer, who graduated from the University of Virginia two years ago and was recently an interne at Michael Reese Hospital, Chicago, and Miss Nannie Jordan Snow, Schuyler, Va., August 28. Dr. Shaffer is now on duty at the medical officers' training camp at Ft. Ogelthorpe, Ga.

Infant Welfare Commission to Safeguard Child Life in France.

Before the present war, the birth and death-rates in France were so nearly equal that economists voiced their concern over the future of the national life. Under the stress of war, the situation has become alarming. The total deaths in France in 1916 were about 1,100,000; the births numbered only about 312,000. The net loss in population was 788,000, or nearly 2 per cent. of the whole.

Recognizing from these figures that one of the crying needs of France is safeguarding the health of its future population, the American Red Cross has dispatched to that country a group of eminent specialists on child welfare. They will not only co-operate with French specialists but will also carry on a general educational campaign among French mothers in the interest of better prenatal hygiene and scientific feeding and care of babies. Special efforts will be made to protect children from tubercular infection which is particularly threatening France at this time as a result of trench warfare.

"Physicians, Surgeons and Nurses in the Present War."

This was the subject of a lecture given by Dr. Joseph C. Bloodgood, of Baltimore, be-

fore a large audience in this city on the evening of August 27. The address was made under the auspices of the Auxiliary Medical Defense Committee of Henrico County and the Richmond Academy of Medicine and Surgery. He stated that his remarks were based on his own observations in various medical camps and that his purpose on this occasion was to give facts. He emphasized the need for young doctors—those under thirty-five years of age. The average age of officers at Ft. Oglethorpe is forty-five years. Rural doctors are volunteering at a more rapid rate than those of the cities, which fact, he said, may call for a redistribution of doctors after the war. In conclusion, Dr. Bloodgood gave it as his opinion that if the war continued for six months, it would pay doctors to go to the front at their own expense, just for the experience they would get.

While in this city, Dr. Bloodgood was entertained at dinner by Dr. M. C. Sycle, at his residence. Other doctors present were Drs. Stuart McGuire, J. S. Horsley, Edward McGuire, James H. Smith and Charles M. Edwards.

Rules Amended Governing Physical Examinations.

The Surgeon-General has amended his regulations governing the physical examinations of men called by local boards so as to authorize acceptance if men 61 inches high, weighing not less than 110 pounds; 62 inches, same weight; 63 inches, not less than 112 pounds; also men 64 inches high, and over or less than standard weight, provided underweight is due to temporary causes and can, in the opinion of the Medical Examiner be reasonably explained.

Dr. and Mrs. R. B. James,

Danville, Va., have been recent visitors at Mountain Lake, Va.

The U. S. Civil Service Commission

Announces open competitive examinations September 18, for experts in the prevention of infant mortality, for both men and women, at salaries ranging from $2,400 to $3,600 a year. Applicants must be under fifty-five years of age, be graduates of medical schools of recognized standing, and have had at least three years' specialization in the hygiene and diseases of childhood, or in the prevention of infant and child mortality by public or private agencies.

Examinations will be held the same date for women only, to secure assistants in the prevention of infant mortality, the salary for which position is $1,800 to $2,400 per year. Applicants must be under fifty years of age, and graduates of schools of nursing connected with general hospitals having a daily average of thirty patients or more after a continuous hospital training of not less than two years.

Examinations for experts in child welfare, for both men and women, salary $1,800 to $2,400 a year, will also be held September 18. Applicants for this should also be less than fifty years of age, and must have an educational training at least equivalent to that required for a bachelor's degree from a college or university of recognized standing, such training to have included two or more years' special training in sociological or industrial subjects, and at least three years' experience in professional sociological or industrial investigation or research, or in professional journalistic or literary work, including the writing of special articles primarily relating to sociological or industrial questions.

For further information about any of the examinations, apply to the above Commission, at Washington, D. C.

The United States Civil Service Commission

Also announces examinations on October 2, for scientific assistants in public health work for the Public Health Service; on October 3, for pathologist to fill vacancy in Freedmen's Hospital, Washington, and vacancies requiring similar qualifications; and examinations, date not given, for physicians in the Indian and Panama Canal services, acting assistant surgeon in the Public Health Service, surgeon in the Coast and Geodetic Survey, and positions requiring similar qualifications. All these examinations are for men only.

Dr. Charles E. Bowles,

Hopewell, Va., accompanied by his family, recently enjoyed a motor trip to Amherst, Va.

The Mississippi Valley Medical Association

Will hold its annual meeting in Toledo, O., October 9-11, under the presidency of Dr. Channing W. Barrett, Chicago. Dr. Henry Enos Tuley, Louisville, Ky., is secretary.

Dr. Joseph A. White,

Richmond, who has been particularly interested in the methods used to determine whether a man has the physical and mental qualifications to suit him for an aviator, will be generally in charge of organizing an aviation examining unit to look after the men sent to the station to be located in this city.

Dr. W. J. Coleman,

Mineral, Va., motored to Richmond, the latter part of August, and on his return, stopped for a visit at Fredericksburg and his old home in Spotsylvania County, this State.

Dr. and Mrs. E. W. Peery

Have returned to their home in Lynchburg, Va., after a visit to southwestern Virginia.

Dr. and Mrs. William B. Meredith,

Norfolk, Va., were visitors in Boydton, Va., last month, to attend the marriage of their son, Lt. H. Clarkson Meredith, U. S. A., and Miss Martha Homes.

Fighting Malarial Mosquito.

Dr. Henry R. Carter, assistant surgeon general, U. S. Public Health Service, was detailed to service in Newport News, Va., and vicinity, the latter part of August, to take charge of the work of exterminating the malarial mosquito on the Virginia peninsula. A large force of men were promptly put to work draining ponds, filling in holes, and covering marshes and low lying places with an oil preparation.

Dr. K. D. Graves,

Bacteriologist for this city, who received his commission as a member of the medical reserve corps, U. S. A., has been sent to the Rockefeller Institute, New York City, to study under Dr. Simon Flexner.

Dr. Junius F. Lynch,

Norfolk, Va., who, as surgeon general of the State National Guard, was in charge of the camp in this city, last summer, has received appointment as an assistant surgeon, with rank as lieutenant colonel, at Camp McClellan, near Anniston, Ala., and has entered upon his duties there.

Dr. and Mrs. R. U. Burges,

Norfolk, Va., have been members of the late summer colony at Natural Bridge, Va.

Germans Drop Bombs on Hospital.

German aviators dropped bombs on two hospital buildings behind Verdun, August 19, killing ten wounded men, one woman nurse and nineteen trained male nurses. They wounded forty-nine male nurses and inflicted injuries on a number of patients suffering from wounds received in battle. In the hospital were 180 wounded Germans who had just been brought direct from the battlefield. The Red Cross signs were painted prominently on the roofs and the Germans knew of the hospital which had been in existence for more than a year.

Dr. John Robert Bagby,

Formerly of Buckingham County, Va., but more recently of Hickory, Va., after undergoing a very serious operation in a hospital at Newport News, Va., is reported as much improved.

Dr. and Mrs. Marshall T. Vaden

Have returned to their home at Beuna Vista, Va., after a visit to the doctor's former home at Chatham, Va.

Dr. William Russell Jones

Has returned to his home in Richmond, after spending sometime with his family at Castle Hill, Lexington, Va.

Mass-Volunteering of the Medical Profession,

With selective draft of its members best fitted for Army Service, is a system advocated by the medical profession of the State of New York, and, to this end, a petition has been prepared to submit to the Congress of the United States. All physicians are to be considered as volunteering for military service and it is left to the profession of the State to determine which of these shall be exempted as being unfit for military service owing to age or physical disability, or on account of being necessary for the community at home, owing to family obligations, public health work, connections with hospitals or colleges or lack of physicians in the community they represent.

Even in adopting this plan, it appears to us that great care should be exercised not to overlook drafting some man who might "make good" in the Army because of some special inclination for that sort of life, although he

may not appear to have qualifications especially commending him for such work to those who do not and cannot know him intimately.

Dr. John L. Kable,

Recently of Staunton, Va., is now located at 2518 Mahoning Avenue, Youngstown, Ohio.

Dr. and Mrs. J. N. Upshur

Have returned to their home in this city after a visit to the New England States.

Dr. and Mrs. W. A. Shepherd,

Of this city, have been enjoying an outing at Warm Springs, Va.

Bryn Mawr School,

Of Byrn Mawr, Pa., is the successor to Dixie School, of this city, and has a day and boarding department for the treatment of backward children or those suffering from speech defects or nervous irritability. Miss Alice C. Hinckley continues in charge of the school.

Dr. A. G. Brown, Jr.,

Of this city, who spent his vacation with his family at Woodberry Forest, Va., was expected home on the 9th of this month.

Red Cross Ambulances in United States Service.

Forty-five ambulance companies organized by the American Red Cross have been mustered into the Army Medical Corps and most of them are seeing active service in this country. Each consists of 124 men. The members of these companies have been given first-aid training under the direction of the American Red Cross, similar to that being provided throughout the country in classes conducted by Red Cross chapters.

Dr. and Mrs. Thomas G. Pretlow,

Chester, Va., were visitors in Ashland, Va., last month.

Dr. William M. Tunstall,

Lovingston, Va., was appointed a member of the executive committee of the Piedmont division of the Bankhead National Highway Association, which was organized in Lynchburg, Va., August 27, for the purpose of improving the sand-hill section of the route between Atlanta and Lynchburg.

Dr. and Mrs. Roshier W. Miller,

Of Barton Heights, this city, accompanied by their children, took a motor trip to Philadelphia, the latter part of August.

Medical Officers Sent to Camp Lee

The Official Bulletin of August 28, announces that the following named officers of the Medical Reserve Corps have been assigned to active duty at Camp Lee, Petersburg, Va., with instructions to report to the commanding officer of the base hospital at the camp on August 30: Capts. Joseph W. Hope,, Samuel B. Moore, and Edward M. Parker; First Lieutenants, Clay M. Easter, Isaac H. Goldman, and Philander C. Riley.

Dr. W. L. Peple, of this city, who attended the training camp at Ft. Oglethrope, Ga., has been ordered on duty as chief of the surgical division of the camp base hospital at Camp Lee.

Dr. E. L. Kendig,

Victoria, Va., was unanimously re-elected chairman of the Democratic Committee of Lunenburg County, Va., at its meeting September 1.

New Medical Association.

We note from the *Maryland Medical Journal* that the first annual meeting of medical societies of the Eastern Shore of Maryland, Virginia and Delaware was held at Ocean City, Md., July 26. Dr. J. McFaddin Dick, Salisbury, Md., and Dr. Eldridge E. Wolff, Cambridge, Md., are chairman and secretary, respectively, of the committee in charge of organizing the new association.

Dr. W. B. Sager

Has been appointed by Governor Stuart as physician for the Danville, Va., exemption board to replace Dr. W. E. Jennings, resigned.

Dr. William B. Pettit,

New Canton, Va., the latter part of August visited at Palmyra, Va. He expects to sail shortly for England as physician on a munition ship.

Dr. R. A. Davis,

Health officer of Newport News, Va., has resigned to accept a commission as first lieutenant in the medical reserve corps, U. S. Army.

Red Cross Serves American Army in France.

To supplement what the army does to make the American troops in France comfortable, the Red Cross has perfected plans to care for each contingent of troops as they arrive. On the route from the reception camp to the training camps, a journey which sometimes takes seventy-two hours, owing to the congestion of the French railroads, there have been established six infirmaries and rest-stations, each in charge of a trained nurse and an assistant, to care for soldiers who may be taken ill on the way.

As to comforts after the men reach camp, the Red Cross has sent to France for their use, 1,500,000 cigarettes, 20,000 packages of smoking tobacco, and 10,000 cuts of chewing tobacco. Canteens will also be established by the Red Cross at railway stations where soldiers on reserve duty or on leave, and those returning to or from trench duty, may find rest and refreshment. Baths, food, games, and other "comforts" will be made available at these canteens.

Hospital supplies, drugs and instruments have been sent to France and additional consignments will be shipped as they are called for by Maj. Murphy, head of the Red Cross Commission in France. A bureau has been established at Berne, which will maintain communication between prisoners in Germany and their homes in the United States, if Americans are captured.

The Members of the Staff of the C. & O. Hospital,

Clifton Forge, Va., announce to the profession that they are prepared to take patients in their respective specialties. Dr. B. B. Wheeler, chief of the staff, is in charge of the surgical department, Dr. J. A. Riffe of the medical department, Dr. E. D. Wells of the eye, ear, nose and throat department, and Dr. J. N. Williams has charge of the X-ray laboratory.

Dr. and Mrs. R. H. Woolling,

Pulaski, Va., have returned home after a motor trip of three weeks through Virginia.

Some Hookworm Found Among New Recruits.

Complaint of a recruit of not feeling well, after officers suspected him of trying to shirk his duty, resulted in a medical examination. Hookworm infection was found. Other examinations by Dr. C. W. Stiles, of the U. S. Public Health Service, showed the prevalence of hookworm at a government reservation, where he was making experiments. These results led to the recommendation for prompt examination of all recruits coming from the "hookworm belt." Every infected man will be treated before being sent out of the country so as to avoid the possibility of carrying this disease to Europe as even light cases, if sent to the trenches, might cause a widespread epidemic of hookworm disease.

Camp Hospital.

It has been announced that a frame hospital, large enough to accommodate 200 patients, will be built at Camp Stuart, which is located near Newport News, Va. The building will be so constructed that it will be possible to add accommodations for a larger number with little trouble, if found necessary. There will be 25,000 men at the camp in a short time, as it is planned to have them sent there to rest up before being sent to Europe.

War Meeting for Health Officers.

A war meeting will be held at Washington, D. C., October 17-20, 1917, by the American Public Health Association. This will replace the annual meeting, which was to be held at New Orleans, La., December 4-7, 1917. The papers and conferences will deal largely with the health problems created by the great war—the food supply, communicable diseases among soldiers, war and venereal disease, war and the health of the civil population, etc. President Wilson has said: "It is not an army we must shape and train for war; it is a nation." Go to the Washington meeting; then come back and do your bit!

Washington will be crowded and those interested are urged to reserve hotel accommodations at once. It will be easy to cancel reservations; but it may be impossible to obtain rooms at the last moment. Any hotel or railroad can give a list of Washington hotels.

Preliminary programs will be automatically mailed to all members of the A. P. H. A. about September 15th. Non-members may receive them free by writing to The American Public Health Association, 126 *Massachusetts Ave., Boston, Mass.*

Dr. and Mrs. N. Thos. Ennett,

Of this city, enjoyed a three weeks' motor trip through the mountains of western North Carolina, last month.

Dr. and Mrs. John D. Foltz,

Of this city, have been visiting the doctor's parents in Augusta County, Virginia.

Dr. Samuel H. Crocker,

Stantonsburg, N. C., was elected one of the vice-presidents of the North Carolina Farmers' Convention at the recent meeting in Raleigh.

Appropriation to Fight Infantile Paralysis.

At a meeting of the City Board of Health of Harrisonburg, Va., August 29, $1,000 was appropriated to fight infantile paralysis there and regulations were adopted making each individual responsible for the sanitary conditions of his premises. Drs. E. G. Williams and W. A. Brumfield, State Health Commissioner and Assistant State Health Commissioner, respectively, were present and addressed the board.

Dr. Edward C. McClees,

Durham, N. C., who graduated this year from the Medical College of Virginia, visited friends in this city the latter part of August en route to West Virginia to practice his profession. He was appointed one of the internes at Sheltering Arms Hospital, Hansford, W. Va.

The American Association of Orificial Surgeons

Hold their annual meeting in Chicago, at the Congress Hotel, September 27-29. The morning hours will be devoted to surgical clinics at Ft. Dearborn Hospital, while the afternoons and evenings will be given over to papers and round tables. Dr. Eugene Hubbell, of St. Paul, Minn., is president, and Dr. Benoni A. Bullock, of Detroit, Mich., secretary.

The Physicians' Lease Committee,

Of the Chicago Rotary Club, has learned that a great number of physicians who have enlisted for service during the present war, are embarrassed by unexpired office leases. In some cases, corporations from whom physicians rent have refused to cancel leases. Believing the doctor makes the biggest sacrifice of all in volunteering his service, the Physicians' Lease Committee is anxious to secure figures and facts, with a view of creating a strong opinion favoring the canceling of leases in such cases. Any of our readers interested may address their answers to R. R. Denny, chairman of the committee, care the Dennos Food Sales Company, Chicago.

Medical Society of Virginia.

Truly the Roanoke meeting, October 23-26, should be a good one, for the committee in charge of affairs in that city are from time to time sending postals to all members showing that they are on their job and want a crowd. A number of our members will be deterred from attending by having volunteered for military service. Cannot the rest of us do our bit in keeping the Society alive? For information, address, the chairman of the Local Committee of Arrangements, Dr. E. T. Brady, Roanoke, the president, secretary, or chairman of the Executive Council. Any and all will be glad to answer your questions.

Dr. and Mrs. D. A. Kuyk,

Of this city, were registered at Old Point, Va., early this month.

Dr. Beverly R. Tucker,

Addressed the Richmond Nurses Club at their regular monthly meeting September 6th.

Dr. John W. Carroll,

Lynchburg, Va., was elected president of the Virginia Golf Association at the tournament in this city, the first part of this month.

Bananas as a Food.

We note from the *New York Evening Mail* that the banana is suggested as a good food, owing to the fact that it can be depended upon verly largely to furnish starch and sugar and a good supply of mineral salts. It may add to our enjoyment of this fruit to know of its real worth as a food product, but, if the price of the banana continues to advance as it has in the past few weeks, it will soon be truly a "food for the gods."

Wanted—Physician to take charge of practice in iron ore mines; comfortable house, delightful climate, good salary. Apply to B. Ryland Hudnall, M.D., Low Moor, Va.—(Adv.)

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THE MANAGEMENT OF HEMORRHAGES FROM THE PARTURIENT TRACT.*

By JOHN F. MORAN, M. D., F. A. C. S.,
Washington, D. C.

The successful management of hemorrhages from the parturient tract requires a thorough knowledge of the causes of their production, unerring judgment and immediate action for their prevention and control. It is important, therefore, to have in mind a well developed plan of aggressive action in these emergencies, for upon promptness and directness depend the safety of the mother and child.

The hemorrhages may occur prior to, during, or after labor. Those occurring before and during labor are either accidental or unavoidable. The accidental is due to the partial or complete separation of the placenta from its normal situation in the upper segment of the uterus, on account of some pathological state of the utero-placental union, toxemia or traumatism, and the hemorrhage may be concealed, visible, or both. The concealed may be dependent upon bleeding between the uterine wall and the placenta, the margin of the latter remaining attached; to extravasation of the blood between the membranes and wall of the uterus; to rupture into the amniotic sac; to stenosis of the cervix or its occlusion by the presenting part. In the vast majority of the cases the bleeding eventually becomes external as well as internal.

The unavoidable variety is due to separation of a vicious implantation of the placenta in the lower segment of the uterus. It is designated, lateral, marginal and central previa, according to its relation to the cervix.

Hemorrhage occurring after the delivery of the fetus may take place from any part of the parturient canal, but post-partum hemorrhage proper is only from the placental site. It is primary when it occurs within twenty-four hours after birth of the child, it is secondary when it takes place at any time during the puerperium subsequent to the first twenty-four hours. While the true form is from the placental site, yet there are other cases in which bleeding may originate from the cervix or vagina. Finally, one or more of these types may be combined.

Frequency.—Premature separation of the normally implanted placenta was regarded to be of very infrequent occurrence, and, in fact, its very existence, though affirmed by some of the earlier obstetricians, was denied by others. Holmes, in an exhaustive review of the literature of the subject in 1901, estimated that mild degrees of accidental hemorrhage occurred in one to two hundred labors and attained clinical importance in every one to five hundred.

Placenta previa occurs, according to different writers, in from one to three hundred to one to one thousand cases. In 11,000 births at Columbia Hospital, there were 50 cases, or one to two hundred and twenty.

Postpartum hemorrhage occurs in about five per cent. of all cases and terminates fatally about once in 5,000 labors.

Etiology.—The etiology of accidental and unavoidable hemorrhage is not definitely understood. The causes assigned for these abnormalities are so numerous that it may be inferred the real cause is unknown. As more than seventy per cent. of the cases occur in women who have borne children, and the frequency increases with each succeeding birth, multiparity and endometritis are regarded as predisposing factors. The frequent association of nephritis with accidental hemorrhage is also of some significance. A short cord and traumatism may be direct factors in the production of hemorrhage from normal placental site,

*Read before the Georgetown University Alumni Medical Society, Washington, D. C., February 2, 1917.

while uterine myomata, malformation of the uterus and low implantation of the Fallopian tubes will help to explain some of the cases of previa. Hofmeir explains the origin of placenta previa as the result of the fusion of the inferior pole of the reflexa with the decidua vera, while Strassman attributes it to defective vascularization of the decidua, the result of atrophic or inflammatory changes, which make it necessary for the placenta to spread over a greater area in order to obtain its requisite supply of nourishment. The unusual size of the placenta in these cases, together with the manner of development of the normal placenta, as given by Peters, lends support to the latter theory.

Until comparatively recent years the pathology of pregnancy has been a virgin field, paradoxical as it may appear. Clinical inference rather than knowledge based upon actual facts has held sway.

Endometritis has been incriminated for much of the etiology of abnormal pregnancy. J. W. Williams (*Surgery, Gynecology and Obstetrics*, xxi., 5, 1915), after an examination of the uteri in two recent cases of premature separation of the placenta, failed to reveal any inflammatory lesions either in the decidua or muscularis. He has also examined, with the same result, microscopic sections, which extended through the entire area of separation, in a number of prematurely separated placentae. Consequently, he holds that endometritis plays no part in the production of the accident, and that when areas of small-cell infiltration are occasionally found in the decidua, the lesion must be regarded as an accidental complication.

In 1915, J. W. Williams (Ibid.), also made an important contribution of his study and histo-pathological findings in the uteri and adnexae in two cases of premature separation of the placentae, in which he was obliged to do a Porro operation, because of atonic hemorrhage. He found numerous hemorrhagic infarcts in the uterine wall, dissociating the muscular fibres; there was also degenerative arterial changes, and fissures were observed upon the surface of the uterus from which oozed a sero-sanguinolent fluid.

Williams believes the lesions are due to a toxemia, the nature and origin of which, however, he is ignorant.

These findings have an important bearing upon the clinical manifestations and the treatment of accidental hemorrhage. The hemorrhagic infarcts are the basis of the pathognomonic leathery consistency of the uterine wall observed on palpation, and readily explain how they interfere with the contraction and retraction of the uterus, also why many women have perished from atonic hemorrhage in spite of the obstetrical measures that were employed. They also serve to explain the deaths from hemorrhage into the peritoneal cavity, from fissures on the surface of the uterus, even though the bleeding from the uterine cavity has been insignificant.

Williams states that when he had completed the investigation of the first case, he thought he had made an unique observation, but in searching the literature he found that Couvelaire, in 1911, had already described the identical picture and the drawings showed that the histological lesions were of the same character, except that the vascular changes were absent. He designated the condition as "apoplexie-utero-placentaire," and was inclined to regard it as a manifestation of the toxemia of pregnancy.

Prentiss Willson, of this city, to whom I am indebted for the following data, November 9, 1915, performed Cesarean section in a primipara, aged 37, in a case of premature separation of the placenta with concealed and external hemorrhage. The clinical signs were characteristic, presenting the leathery-like consistency of the uterus, with absence of alternate contraction and relaxation, together with presence of abdominal pain and severe shock. The amount of hemorrhage could not alone account for the profound shock. After the extraction of the dead child and removal of the placenta, the uterus was packed with gauze and then closed with the gauze in situ. There was no bleeding after the operation. The patient died of shock three hours afterwards.

Willson's histo-pathological findings were identical with those observed by Williams in his two cases, the essential thing being the interstitial hemorrhages into the wall of the uterus and infiltration of blood separating the muscle fibres. These changes were particularly marked at the placental site. Fissures were present on the surface of the uterus and there was bloody fluid in the peritoneal cavity.

His conclusions are as follows: (1) Premature separation of the placenta is in a large percentage of cases the manifestation of tox-

emia; (2) the pathological evidence in the uterus points, in his opinion, to the placenta, as the site of origin of the toxin, the point being that the toxin is generated in the placenta from unknown causes, and in the process of absorption through the blood vessels and lymphatics of the uterus and adnexae acts upon these structures very much as the hemorrhagic principle in snake venom, disintegrating the vessels and thus liberating the blood.

While the pathological factors of postpartum hemorrhage are not clearly understood, we know that anything that lowers the vitality of the system predisposes to atony of the uterus, thereby interfering with the contraction and retraction of the muscular fibres which prevents hemorrhage. Therefore, hemorrhagic diathesis, anemia, leucocythemia, nephritis and endometritis are regarded as predisposing causes. Cardiac, pulmonary and hepatic disease, producing obstruction or sluggishness of the maternal circulation, increases the liability to hemorrhage. Multiparity, precipitate labor, hydramnios and twin pregnancy also favor postpartum hemorrhage. By far the most frequent cause of hemorrhage after birth is improper management of the expulsive and placental stages of labor. Hasty delivery, either by forceps, breech traction, or version, may take the uterus by surprise and prevent its normal action. On the other hand, precipitate labor or protracted labor, by inducing inertia, may be attended with the same result. The prolonged use of anesthetics, premature expulsion of the placenta and a distended bladder are likewise factors. Secondary hemorrhage is most frequently due to adherent placental tissue or retention of blood clots.

Treatment.—Unfortunately, owing to the paucity of our knowledge of the etiology of accidental hemorrhage and unavoidable hemorrhage, we are practically helpless to prevent them; not so, however, with postpartum hemorrhage, for with proper management during pregnancy and labor, we can usually prevent it, and, when it does occur, by prompt use of measures at our command, we can, with almost absolute certainly, control it.

The management of hemorrhage from the normal placental site has, in the last several years, been placed upon a more rational and satisfactory basis than heretofore obtained, owing to the illuminating and truly epochal work of Couvelaire, Williams, Willson and others. While the usual obstetrical measures will suffice in the majority of cases, radical treatment by the Porro operation will be more often invoked in the future, because of known liability to atonic hemorrhage and hemorrhage into the peritoneal cavity from the aforementioned lesions.

The indication for treatment in the individual case will depend upon the general state of the patient and the condition of the cervix. When these are satisfactory, intervention is unnecessary for nature will do what is required unassisted. If the bleeding, however, is marked and signs of collapse are pressing, the uterus must be emptied promptly. If the cervix is dilated, or easily dilatable, the child should be extracted with forceps or by version, the uterus packed with gauze without previous irrigation, pituitrin administered and the uterus vigorously massaged to promote its contraction. If, in spite of these measures, hemorrhage persists, hysterectomy must be performed. The vaginal tampon, which is so effectual in the treatment of placenta previa, has no place in the management of premature separation of the placenta because of the danger of concealed hemorrhage.

The writer has seen two cases of accidental hemorrhage; both mothers recovered, but the infants perished before delivery.

While the cardinal indication in the management of hemorrhage from premature separation of the placentae is to empty the uterus as expeditiously as possible and promote contraction and retraction of that organ to prevent further shock and loss of blood, in placenta previa the first step is to staunch the hemorrhage with some part of the body of the child and then allow the labor to proceed slowly in order to overcome the shock and secure normal action of the uterus following the delivery.

In marginal and lateral previa, artificial rupture of the membranes permits the presenting part to descend and control the bleeding by compressing the placenta, and the labor, as a rule, terminates naturally. In this connection, however, the possibility of internal hemorrhage must be borne in mind. Some years ago the writer had under his care a case of marginal previa, in a young multipara, who had given birth to a number of children in rapid succession. The membranes ruptured spontaneously early in labor. There was slight visible bleeding. Pains were tardy and feeble.

Several hours after the onset of labor, signs of impending collapse were observed and internal hemorrhage was suspected. Examination showed cervix dilated about two inches in diameter, but soft and yielding. Forceps were applied in utero and a living child extracted. Immediately following the delivery more than a quart of dark clots were expressed from the uterus, which continued to relax, necessitating artificial expression of the placenta. Profuse hemorrhage followed, which was controlled by intrauterine irrigation, massage of the uterus, and ergot hypodermically.

The tampon is a very valuable adjunct in the treatment of previa, in that it controls the hemorrhage, promotes softening and dilation of the cervix and at the same time enables the physician to deliberately and safely prepare, if need be, for immediate extraction.

Bi-polar version, perforating or separating the placenta from its uterine attachment by the finger, and afterwards bringing down a foot, are the usual methods employed in central previa. Bi-polar version has reduced the maternal mortality of previa, but as the child is used as a plug to control the hemorrhage, its life is usually sacrificed. It was quite natural, then, that other measures would be evolved with the hope of reducing the frightful infant mortality, while not decreasing the chances of the mother. Hence, abdominal Cesarean section for placenta previa has been advocated and performed from time to time for more than twenty years. In the writer's judgment it has a limited but clearly defined field. It is particularly applicable in complete previa in primiparae with undilated cervix and the results in elective cases are very satisfactory.

Miller (*American Journal of Surgery*, January, 1909), has treated fourteen cases of the central variety by preliminary ligation of the uterine arteries. His technic is to ligate the uterine artery on either side through the vagina, and then, having controlled the hemorrhage, he proceeds to slowly deliver. He claims that the operation is simple, performed in some cases without anesthesia, does not decrease the possibility of future child-bearing, controls hemorrhage, allows the operator to proceed slowly, and to carefully dilate the cervix and empty the uterus. He also claims that the ligature prevents postpartum hemorrhage. He states that while the fetal mortality may be slightly increased, there should be no maternal mortality except from infection.

This method of intervention is ingenious, but it is open to the same objection that is offered against bi-polar version, in that no consideration is given to the life of the child.

The writer has had considerable experience in the treatment of placenta previa in private, hospital and consultation practice. It has been his good fortune to have had only one fatal case, and he believes that this patient might have been saved under better environment. The case was seen in the country sixteen miles from the city. It was a central previa in a primipara, aged 42. There was history of repeated hemorrhages for a month, the last occurring several hours before he was called. The attending physicians had tamponed. Patient almost exsanguinated, pulse rapid and weak. No fetal heart sound. Advised continuance of tampon and ordered salt solution. Next morning somewhat improved. Salt solution continued with good effect. The writer yielded to the solicitation of the physicians and family and attempted to deliver, after assuring them, however, that he was afraid she was still unable to bear an anesthetic or withstand the shock of an operation. Version was begun and the patient succumbed just as the child was turned and a foot brought through the cervix.

He has always regretted that he did not adhere to his own judgment and feels that her only chance was lost by untimely intervention.

Many of the predisposing causes of postpartum hemorrhage can be overcome, and some may at least be mitigated if treated during pregnancy; some others, however, cannot be removed and these may give much concern during the second and third stages of labor. Anemias, toxemia and leucocythemia are particularly prone to cause postpartum hemorrhage.

Unquestionably, the most frequent cause of postpartum hemorrhage is the improper management of the third stage of labor through neglect, or want of knowledge of the principles of contraction and retraction of the uterine muscular fibres, which act as Nature's ligatures to control the uterine vessels, favor formation of thrombi in the uterine sinuses, separate and extrude the placenta. Disregard of these important functions of the uterine

musculature is liable to be attended with grave consequences.

Every student and nurse should be taught at the bedside the method of grasping the uterus, as recommended by Crede, for placental expression. No attempt should be made to deliver the placenta until the fundus rises to the level of the umbilicus, indicating that it has become detached from the uterine wall. At least a half hour should elapse before expressing the placenta unless there is actual uterine relaxation or hemorrhage. This allows the uterus to rest and prepare itself for the completion of the placental stage. When the placenta is adherent, or if there is retention of clots, the fundus should be grasped in the palm of the hand with the fingers on the posterior and the thumb on the anterior surface and, at the height of a contraction, pressure made in the axis of the pelvis. If this fails to expel the placenta or clots it may be necessary to introduce the hand into the uterus to remove them, care being exercised not to puncture the wall. In an emergency, bimanual compression with one hand in the vagina pressing the cervix upwards and the other grasping the fundus and forcing it downward against the symphysis, will effectually check the hemorrhage and allow time for preparing the intrauterine douche and subsequent tamponade.

The placenta is sometimes retained and inverted, particularly if traction has been made upon the cord. If it cannot be expelled by uterine compression, the index finger should be passed above the inverted edge, hooked into the placenta and then slight traction will be sufficient to remove it.

The writer has not infrequently had to deal with postpartum hemorrhage of greater or less severity, several of which cases are worthy of mention. The first occurred in a multipara who was attended by a midwife. The writer was summoned about two hours after the delivery and found the patient in collapse. Examination showed the fundus uteri to be at the level of the umbilicus and contained about a quart of clots. The debris was removed manually and further hemorrhage prevented by intrauterine irrigation and ergot hypodermically. The second case, a multipara was also under the care of a midwife. When the writer reached the bedside, the patient had been delivered and was having a severe hemorrhage. Examination revealed a partially adherent placenta, which was quickly peeled off with the fingers and removed, and the uterus irrigated and packed. The third case occurred in a case of Cesarean section complicated with inertia. After the extraction of the child the uterus collapsed like an empty bag, attended with marked hemorrhage. For a time it was feared that a Porro operation would be necessary to control the loss of blood, but the free use of salt solution, with compression and gauze packing of the uterus finally checked the bleeding.

In secondary postpartum hemorrhage, like in the primary, preventive treatment is the most important. If the third stage and puerperium are properly managed, this complication can usually be averted. The direct treatment consists in completely removing the placental debris or clots and securing complete uterine contraction.

One of the most alarming cases of secondary hemorrhage the writer has ever had to contend with was in connection with a case of blighted ovum. When he reached the patient she was blanched and almost pulseless. Free stimulation and hypodermoclysis were given and the uterus was packed. The patient's condition made it necessary to defer the removal of the mole and placental debris until the next day. The acute anemia yielded slowly to treatment, and the patient had to be sent to the seashore for several months to recuperate.

Injuries to the cervix, vagina and pelvic floor may be greatly minimized by careful attention to the mechanism of labor, retarding the passage of the child in rapid labors, and avoiding undue haste in instrumental and operative deliveries. Hemorrhage from the cervix should be controlled, preferably, by suture, and all tears of the vagina and pelvic floor, no matter how slight, should be closed immediately to guard against subsequent hemorrhage and infection.

In conclusion, hemorrhage due to premature separation of the placenta yields the highest rate of mortality of any of the obstetrical complications, and this unfortunately will continue because we have no means of preventing it, and when it does occur it demands constant vigilance and keen discernment to decide whether active interference is necessary, and, if so, what method of intervention to elect. With placenta previa the prognosis is decidedly more favorable; in fact, prompt and appropriate treatment gives, as a rule, excellent re-

sults. We know that in lateral previa there is rarely any difficulty, and labor usually terminates naturally. In the marginal, however, it becomes more dangerous and in the central variety it is always a matter of grave concern.

Hemorrhage and infection are the two most important dangers in premature separation of the placenta and in placenta previa, and to these rupture of the uterus as a third factor may be added in accouchement force, and more particularly when attempt is made to deliver the child through an insufficiently dilated cervix. Of the trio of hemorrhages from the parturient canal, the postpartum is the most easily prevented, and when it occurs it is the most amenable to treatment.

The writer has endeavored to present the subject under consideration from the standpoint of the general practitioner and not from that of the well-equipped maternity. He has, therefore, purposely mentioned only those measures with which every physician, who does obstetric practice, should have a thorough knowledge and be prepared to use when the occasion demands. The writer's reason, therefore, in bringing to your attention a subject so familiar to all, is not because of its frequency, but because of the emergency which demands early recognition, prompt decision and action, in that it involves the life of the mother and child, and as regards the physician himself, his professional reputation.

2426 *Pennsylvania Avenue, N. W.*

THE CLINICAL TREATMENT OF SYPHILIS.*

By THOS. W. MURRELL, M. D., Richmond, Va.

The title of this paper means the treatment which is practical for the patient and scientific for the physician. The last few years have dazzled so many minds that there is a sort of chaos composed of the ultra-conservatives discarding all our recent gains, the disappointed but persistent idealist, loth to give up his dreams, and between them the practicing empiricist who uses old and new remedies impartially as his whim leads him. The writer would attempt if possible to straighten out the tangle and to determine a course of conduct which will use the best of the old and the new, such use being based on logical reasoning.

Every labor-saving device increases a product at the expense of the product itself, so much so that hand-made and machine-made have become terms to indicate grades of worth. Machine made products, as a rule, are sufficient to the need but are devoid of those excellencies which are a part of pride of craft. They serve the purpose well enough but are devoid of artistry. Music is termed an art and medicine a science; yet music is so complete a science, art therein has to be highly developed to be original, while with medicine science is so incomplete there is a large field for artistry. By artistry I mean the ability to do the right thing in the right way, at the right time; this ability arising from a companionship with pathology and an intimacy with disease manifestations, and the methods by which they are controlled.

Steam has driven sail from the sea, and if a man were to build one of the clipper ships of olden days from plans still in archives, it is doubtful whether a crew could be found capable of sailing her. That contempt which the Old Salt has for the sailor in steam must be in a measure duplicated by the old navigators of medicine for the young man of today, whose engines of propulsion are the numerous diagnostic tests emanating from the laboratory.

The elusive search for the specific seems to be the bane of scientific treatment, but it is now a part of the diagnosis, for the Wassermann is being used as a specific diagnosis. In other words, many men are depending on a routine blood test to tell them when to establish another routine. The first is harmful to the physician and the second harms the patient.

Some writer of wood lore has written, it is astonishing the number of things a woodsman can do with an axe. Besides his rifle and knife it is his only tool and more generally useful than either.

It is also astonishing the versatility of the expert of other days in the use of mercury and the iodides. The iodides were simple, but mercury was used in every conceivable way, some preferring one and some another, but the man himself who became an expert in syphilis was also an expert with mercury. It is a pity we cannot retain all that we gain in one path when we turn to advance in another.

When syphilis first became generally recognized, such a man as De Soto was losing his life hunting for the fountain of eternal youth. When educated laymen laid down their lives

*Read before the Tri-State Medical Association of the Carolinas and Virginia, at Durham, N. C., February 21-22, 1917.

in search of fantastic El Doradoes, it is reasonable to believe the same spirit actuated the scientist of the times and the search was always for a specific, something magical, which would give a result which was satisfactory even though the means remained a mystery. Thus came into the world guiac and sarsaparilla, which last still lingers in our patent medicines as a blood purifier, though hardly more than a name or a disguise for other remedies. Then came mercury to save the world, but still a *specific* for it was given to toleration or rather to salivation. The next hundreds of years were ones of painfully wrought out technique and knowledge gained. Syphilis was still the great mystery whose cause was unknown and was recognized symptomatically. Results were judged by precedent and men were treated in the way which had proved best. Diagnoses were made with caution and conclusions as to cure were more cautious. The patient had a long, hard road before him, and the mistakes of the past were ever the guides of the present. Then the syphilitic world exploded. In four short years, more changes came than in the four hundred preceding. Schaudin discovered the spirochete, Wassermann, the blood test, and Ehrlich gave the world a new remedy, the analin-arsenic compound. It is hard yet to realize what these first two mean. From darkness and obscurity syphilis emerged to one of the easy explored diseases, yet because of the majestic proportions of the disease such work is like the exploring expeditions in a great continent. With the microscope we can diagnose the initial lesion and gain the use of that precious time known as the period of the secondary incubation. With the Wassermann we can diagnose those cases which formally were in doubt and, more than this, to a great measure, say when the treatment is effective.

These great discoveries were not an unmitigated blessing for it introduced the machine made diagnoses and the harmful effect is first seen on the medical student. He seems to reason thusly: If the dark field illumination is necessary to a scientific diagnosis of the chancre, why should I burden myself with all the details in the differential diagnosis of the lesion; and if I am to depend on the Wassermann finally, why should I worry about the knowledge of the other pathology?

Of course, this is a great mistake, but it is no greater than many of us made in regard to the arsenical products. The reason for the acceptance of this was the measure of the man who discovered it.

The writer well remembers the first notice he saw of 606 and its claims in a medical journal. He dismissed it at that time as unworthy, because impossible. Then, later, there was the feeling of wonder in a conversation with Dr. Barker, who expressed himself as believing in the claim. The writer believed in Barker and he in his friend Ehrlich, and so I and others like me passed it on to some who believed in us. Had 606 emanated from the laboratory of some commercial concern it would not have been received with so great a degree of credence and the world would have been better off.

This does not mean to say that salvarsan is not a great remedy. It is, but it is like other drugs in only being one of the tools of the intelligent workman. The harm emanating from it has been the idea which came with it, the false way in which it was greeted, the hateful phantom specific which has ever troubled the scientific spirit.

If the diagnosis of syphilis was only the question of a blood test and the treatment only the administration of an intravenous dose, then syphilis would need no study and possibly half of human ills would be provided for at one fell swoop.

Of course this is nonsense, but what is nonsense now was belief with many a few short years ago and the profession has had to shake itself together and catch step in line, forgetting the mania which possessed it when assailed by the old medieval chimera, the specific, re-introduced by one of the greatest minds of the time.

What, then is the commonsense view of the situation? How are we to adjust our old learning and our new discoveries? How are we to correlate the past and the present to the immediate benefit of our patients? Let us first consider the study of the disease itself.

Osler is credited with the remark to the effect that he who knows syphilis knows the practice of medicine. It is a saying near enough to the truth to indicate the task of study and it should be thorough in the beginning.

The time must come when in our medical schools there will be a chair of syphilis. This

is so for several reasons. As at present taught in most schools syphilis is a garment for which many chairs cast lots. Obviously, no one chair can cover the subject thoroughly, yet the attempt should be made that a general knowledge of the study be laid out for special study to enlarge upon. As it is in most schools, every teacher has his say about it as affecting his particular part of the curriculum and such patchwork teaching must be patchwork in its results.

Furthermore, in most schools with a four-year curriculum the dispensary and bedside teaching is a part of the graduating year. So many syphilities come into our dispensaries, the student has such cases demonstrated before he has had sufficient teaching on the subject. This can be obviated by the general subject being taught in the third year and the student well grounded in the symptoms of the disease before he comes to the magic of the Wassermann or the simplicity of the spirochete finding.

I use the term magic in connection with the Wassermann because there is so much unknown about it. However learnedly the terms antigen and ambocepter, etc., are used, the Wassermann is no more a test than the discovery which preceded it. This discovery was called the Bordet-Gongou phenomenon and the Wassermann is still a phenomenon. A phenomenon is something which happens without apparent reason. We do not know the cause of the Wassermann, do not know the substance that produces it, or much that is definite about it. All we know is, it is a phenomenon which occurs in active syphilis with enough frequence to make the diagnosis of syphilis extremely suggestive. We have every right to believe that the positive Wassermann indicates syphilis in the untreated, or neglected case; we have not as much right to believe such positiveness indicates syphilis in the thoroughly treated case; and when we come to the negative Wassermann, it indicates only a phase of the disease if following recent treatment and must be completely ignored if other symptoms are sufficient to convince to the contrary.

There is no parallel in medicine where such trust is placed in an unknown act. It is not right to base the entire course of conduct on such an aid. It is only one of the means of diagnosis.

As an aid to treatment the case is different. Here we have decided to go along a certain route and, having so decided, the Wassermann can help in holding us to the track. It will be of use in proving which forms of treatment are most efficacious and when to push the treatment and when to slow up. To treat a case in this way requires a test at least once a month. At the present prices for such work this is impossible. This does not mean the laboratory fees are too high. We really pay for the man we trust more than the work produced. The time and labor is worth all that is charged, but the average patient can't pay for it. In such an *impasse* the state usually steps in and the state laboratory Wassermanns are the result. Until then I have not much hope for the scientific treatment of syphilis in the hands of the general practitioner.

Urinalyses are a routine in every hospital and in most first examinations of the patient. Not until the Wassermann becomes as generally employed as the urinalysis will the specific patient receive his just dues, and yet, though it may seem paradoxical, the Wassermann itself must not be regarded as a court of last resort. The infrequency of use seems to have clothed it with powers of decision greater than it possesses.

The arsenical products have been used long enough to be judged according to their merits. Once and for all eliminating the specific idea, we have here a wonderful remedy. Mercury and the iodides have long ago been placed where they belong. It should not be difficult, therefore, to determine the proper manner to exhibit these two remedies.

Intensiveness is the key-word to the modern treatment of syphilis. Standardization of treatment could only come by the standardization of patients and one is as impossible as the other.

Broadly speaking, treatment can now be divided into two divisions, symptomatic and serologic. Symptomatically, we can employ arsenic, mercury and the iodides. Serologically, our main dependence must be mercury. The attack along either line should be intensive and as a remover of symptoms salvarsan and such preparations far exceed mercury in value. Once the systems are cleared, we now devote our attention to attaining a negative Wassermann.

The writer cannot agree with many authorities who place the intra-muscular injections of

mercurials above the inunction. This old treatment still remains one, if not the most rapid method of mercurilizating a patient and pushed to tolerance the effect of the Wassermann is usually good. Once the Wassermann is negative, we come to the old idea of the standard treatment when it is necessary to hold that which we have obtained and do so without harm from the remedy. Then and then only are regular small doses indicated, such as the 1/24 bichloride t. i. d., the 1/6 of proto-iodide in a like manner, etc. When these remedies are apportioned to their proper tasks and used in the manner the stage of the disease calls for, no disappointment will follow in the vast majority of cases. Salvarsan and its kind must be regarded as marvelous first aids, which will almost invariably remove visible symptoms. It is a wonderful remedy and if used in the chancre stage it not infrequently lives up to its early claims.

Syphilis can be frequently aborted if the diagnosis of the initial lesion is made in the first week after appearance. The writer makes this statement unqualifiedly, because he has done it, not once, but several times. There are in his records two cases, both men, both with chancres diagnosed by dark field illumination, one treated with salvarsan and one with neo-salvarsan, both having negative Wassermanns afterwards, in one case for one year and the other for four years. Both of these men contracted a chancre again, not on the site of the former sore, and both sores showing spirochetes by dark field illumination. This to the writer is proof that syphilis can be aborted if seen very early. Once the infection becomes general, such an idea becomes a chimera and a snare. When the question is raised as to the manner in which these drugs act, nothing very positive can be stated. Salvarsan is almost certainly a spirochacide, actually so in laboratory and probably indirectly so in vitro. The pathology of syphilis is so protective to the causative organism, salvarsan, though carried by the blood, cannot break through all the infiltrated barriers behind which the spirochete lurks.

It is safe to say that these organisms which are reached, are speedily killed, the ability to cure being in proportion to the ability to reach the locus of infection. The iodides are in no way anti-syphilitic. They stimulate the emunctories and all glands, particularly by the lymphatics. They are tissue resolvents and make wonderful scavengers though they should never be placed in first line of battle.

For some years the writer has contended that the anti-syphilitical action of mercury is not antiseptic in character. Salts of mercury possess varying degrees of antiseptic value. Calomel is a grand antiseptic, but one cannot do quite as well in the treatment of syphilis with the grey powder which has very little value in this line. Mercuric iodide is a wonderful antiseptic but better results can be obtained with mercurial ointment, which while antiparasitic, is not classed with the antiseptics in any way.

Some assimilative change must take place with all forms of mercury which reduces them in the body to a common working level. What that change is we do not know. In support of the view that mercury does not act antiseptically, the writer would submit the following propositions:

1. *Any bacterial disease does harm by toxaemia.*—The toxins may be elaborated from different sources, but the mechanical presence of the germ is harmless, as witness the pneumococcus in the mouth, or the bacillus coli in the intestines.

2nd. Such bacterial invasion can be only overcome in one of three ways: a. By killing the organism chemically. b. By neutralizing the toxins. c. By inherent body resistance.

Therefore, mercury must act in one of three ways—as an antiseptic, neutralizer, or tonic.

The anemia produced by mercury and other well known facts at once exclude it from the realms of the tonic or supportive treatment. The care then lies as to whether mercury acts as a direct or indirect antiseptic, killing spirochetes as such, or as a neutralizer of specific toxins.

Against the antiseptic idea the writer would advance the following facts: Antiseptics are quick in action and their use is not greatly affected by attendant harm.

When one treats malaria he expects a short, sharp conflict where the disease is exterminated by a smothering attack of quinine. We do not attempt to pasteurize malaria or diphtheria, but to sterilize it. In the same manner are antiseptics used locally.

But consider mercury. We may drive to a certain serologic result, the negative Wassermann, which is not a victory but a place of

advantage; from then on we use enough of the drug to hold what we have gained. What have we gained? Freedom from infection? This is obviously untrue. We have only gained freedom from toxemia and the resultant harm.

What, then, produces a cure? *The arrival of immunity.* This develops uninterfered by treatment and if the burden of toxemia be removed until such time as anti-body formation can take charge of the situation, actual immunity has supervened and the cure is perfect.

This theory, because it is but a theory, is none the less a working one. By it we have a logical way pointed out to handle our cases. It explains why an aborted case may be reinfected; it further explains why mercury should be given over an extended period and, further, the relation of the negative Wassermann to an existent disease.

17 *East Grace street.*

TRAUMATIC STREPTOCOCCUS MENINGITIS. CASE REPORT.

By C. N. CHIPMAN, M. D., Washington, D. C.

Mr. E., white, male, aged 30, weight 190 pounds. Was injured on Monday, June 12th, 1916, by being pitched on a macadam road from a fast driven automobile, when it hit a post and turned over. He was cut and bruised from head to foot, but apparently no bones were broken. He was treated at his home in Virginia by a local physician, from Monday, June 12th, 1916, to Wednesday, June 14th, 1916, when his brother brought him on a cot to Washington by train and put him in my care.

On his arrival at the George Washington University Hospital, June 14th, 1916, at 6 P. M., his temperature was 99.8 degrees F.; pulse, 100. His general condition seemed good, though somewhat tired from his long trip on the train. He wanted to get out of bed the next day. At that time the prognosis seemed good. His wounds were re-dressed, and among the many cuts and bruises were noted two sharp, clean cuts, about one inch long, over the right and left temporal frontal regions. They both had been sewed up with some black suture and looked to be in good condition. No fracture of the skull was noted at this time. His mental condition was normal. The next day his condition continued good, maximum temperature 100.4 degrees F.; pulse, 92, and white count, 9,500; urine normal.

His condition remained about the same until June 16th, when about 4 A. M., the interne phoned me that he was very delirious and restless. Temperature was 102.4 degrees F.; pulse, 120. On arriving at the hospital I found the patient very much worse, seemingly suffering from a marked meningitis. He was so restless that it required constant watching to keep him in bed. His white count was now 13,500; Wassermann negative; Noguchi negative. Because of his violent delirium it was impossible to examine his eyes for choked disk.

I made a spinal puncture to obtain some spinal fluid for examination and relieve intracranial pressure, but could not see that it reduced the intra-cranial pressure.

The bacteriological report was as follows: Material—spinal fluid. Smears showed polymorphonuclear leucocytes x x x x; red cells x. One chain streptococcus found. Culture on blood agar shows streptococcus hemolyticus.

Bacteriological diagnosis — streptococcus hemolyticus.

The cuts over the temporal regions were opened down to the bone, and washed out with tincture iodine. His skull was again examined for fracture, but none found.

A friend of the patient, a physician, rather insisted upon a decompression operation, but I could see no good reason to operate, as there was no paralysis and you would not expect a great amount of fluid from streptococcus infection. Dr. H. H. Kerr was called in consultation and agreed that an operation was not indicated, which was proven by the autopsy.

On June 17th and 18th his condition gradually grew worse, death occurring at 6 P. M., June 18th, 1916. His great restlessness and delirium continued until death occurred. His maximum temperature was 106.2 degrees F. He was given streptococcus serum intravenously, June 17th and 18th.

Discussion:—This case is of interest for several reasons. We are able to do so little in any severe streptococcus infection. It is usually of a wild-fire type and of short duration. He had a fracture of the skull that was not noted until the autopsy was made, and yet he apparently would have recovered if he had had the fracture only. The fracture was not an easy one to discover. It was not directly under the skin wound, but about one-half inch medial to it, so that when the wound was probed no fracture was found.

The mortality resulting from brain injuries is very high. During the period from 1900 to 1910, the mortality figures at three of the large hospitals in New York ranged from 46 to 68 per cent. of all cases of brain injuries. The meningitis was rather slow in developing, the accident occurring on the 12th, and yet he did not show any signs of infection until the 15th.

This case shows how dangerous it is to sew up tight a dirty wound, for in this case we were able to trace the infection from the cut over the right temporal region, by the thrombosis of the parietal emissary vein, and the pachymeningitis in this region. The region around the fracture in the occipital region was free of infection.

This case shows clearly the value of an autopsy in all cases.

1529 *Eye Street, N. W.*

Summary—Partial Autopsy.

By OSCAR B. HUNTER, M. D., Washington, D. C.

Mr. E., No. 22037. White, male, aged 30. Few bruises about face—not serious—no fractures of bones of face. Subconjunctival hemorrhage in left eye.

On right side, about one-half inch lateral to bregma and extending obliquely downward and posteriorly to about the middle of a line representing the fissure of Rolando, a linea laceration about one and one-half inches in length extended through the galea aponeurotica. A few small bruises and contusions noted over left and right temporal regions and frontal regions.

Linea laceration three-quarters inch in length in left occipital region just left of the junction of the upper one-third, with the lower two-thirds of a line drawn from the lambda to the inion. All layers of scalp severed down to the pericranium.

On removal of scalp considerable contusion of temporal muscle noted on left side, with some hemorrhage beneath temporal fascia. No fracture in this region.

Tissues around parietal wound slightly edematous and infiltrated with pus. Thrombosis of parietal emissary vein on right side; small amount of hemorrhage beneath galea: no fractures in parietal regions.

Tissues around occipital wound contused: moderate amount of hemorrhage under occipitalis; floor of wound on pericranium; bone intact at this point.

One-half inch medial to this point, a small rounded perforation in skull with ragged edges was discovered, plugged up with blood clot, which contained many small bony fragments: opening admitted end of little finger.

Removal of skull cap showed meninges soggy; pachymeningitis externa in region of parietal emissaries. Dura lacerated in region of fracture; some extra dural hemorrhage, but no evidence of purulent exudate in this region.

Dura removed and a frank purulent leptomeningitis exposed. Marked purulent exudate sub-pial, extending from parietal emissary regions, anteriorly over frontal lobe and downwards in temporal regions, also somewhat posteriorly on the right side.

Considerable subdural hemorrhage in region of the occipital perforation was present with some slight subpial hemorrhage. A wound filled with blood clot was seen extending into the cerebral tissue, involving particularly the cuneus in the region of the lateral occipital fissure. Upon removal of clot, the perforation was seen to extend into the posterior limb of the lateral ventricle.

GASTRIC RETENTION.*

By MATT OTEY BURKE, M. D., Richmond, Va.

Gastric retention depends upon a weakened condition of the muscles or pyloric obstruction.

Myasthenia may be due to a vagus inactivity, sympatheticatonia or a dormant condition of the intrinsic nerves of the stomach.

Gastric retention is defined in most textbooks as motor insufficiency of the first and second degrees.

The first degree is when a test dinner is retained longer than six hours and the stomach found empty the next morning.

The second degree is when a test dinner does not leave the stomach over night.

Simple retention may exist for some time without dilatation or displacement of the stomach, but, if not corrected, must necessarily lead to dilatation or prolapse, or both.

Retention of the second degree is always attended by dilatation or prolapse after the acute condition has passed.

*Read before the Tri-State Medical Association of the Carolinas and Virginia, at Durham, N. C., February 22, 1917.

At first there is hypertrophy of the muscles and a tonic condition with no change in the size or position of the stomach; when the muscles grow tired or relax, the stomach walls become stretched and dilate, thus making it more difficult to empty the stomach.

If the patient continues to eat, the storehouse loses tone and dilates, the oblique fibers give way first with the thinner bands of the circular muscles and the left half of the longitudinal bands; the pyloric canal may still be hypertrophied. Later, this, too, will grow tired and give way; then we have atony plus obstruction.

There is another form of retention which is most frequently overlooked. In this condition the stomach may empty in the average time; the delay is in the first hour or hours after taking food.

In a healthy stomach the food should begin to pass the pylorus in three to ten minutes. In this condition, it may not begin to pass for 30 to 60 minutes or longer; later on, it may pass out suddenly.

Causes—Over-indulgence in food may so distend the stomach that the muscles cannot contract; especially is this true after a depleting illness, such as grippe, pneumonia, typhoid fever, etc.

Too much alcohol, beer or narcotic drugs may anesthetize the nerves. Excessive smoking acts through the nervous system and causes atony. Filling the stomach with large unmasticated portions of food, especially if tired or worried, causes the same result; likewise, continuous hurried eating, followed by mental absorption or physical exertion. Diseases of the nose, lungs and heart weaken the motor power of the stomach. Diseases of the bile tract and liver weaken the propulsive forces and diseases of the pancreas act similarly. All diseases of the stomach either weaken the muscles or obstruct the pylorus. Diseases of the intestines interfere with the functions of the stomach. Inflammations of the upper abdomen leave adhesions that often obstruct the outlet. Nephritis may leave poisons in the system that would cause myasthenia. There may be a congenital narrowing of the pylorus. Improper feeding in childhood may render the muscles of the stomach incapable of managing the diet when subjected to the strain of the responsibilities of life.

Symptoms—Physiologically, the entire system is dependent upon what passes through the stomach; pathologically, much harm may be done by gastric rentention.

The symptoms may be so masked by the disease causing myasthenia that they escape the notice of both patient and physician, as in pneumonia, typhoid fever and diseases of the heart.

When the stomach fails to give out its food in the required time, there is a feeling of heaviness and depression in the epigastrium.

When the stomach empties suddenly there is a feeling of weakness, nervousness, and often a fainty feeling.

The patient usually feels satisfied before he has eaten a full meal, or the appetite may be entirely absent.

Burning, boring sensations in the chest are produced by food and gastric secretions in the lower esophagus, due to a relaxed cardia, a closed pylorus and contractions of the circular muscles. The contents travel in the line of least resistance.

Belching of food or gas are often present, as well as acute boring pains and a to and fro movement in the epigastrium.

Vertigo, palpitation and headache are most probably due to absorption of poisons from fermented and decomposed foods.

In obstruction with prolonged retention, we find emaciation, dryness of the skin, thirst, often hunger, and frequently vomiting.

Food and water are not absorbed by the gastric walls; hence, a patient may starve or perish even with a full stomach.

Constipation nearly always accompanies retention; it may be due to myasthenia of the intestines, absence of a sufficient amount of food, or a chemical reaction produced while the food is retained.

Diagnosis—The subjective symptoms would lead us to suspect retention. By a physical examination, inspection, palpation, percussion and ausculation, we can fairly well outline the stomach in patients that are not too fat, but this does not throw much light on the emptying time nor does it show the degree of retention.

The stomach tube and X-ray have very greatly simplified gastric diagnosis.

By means of the fluoroscope after a test-meal of barium or bismuth, we get the size, shape and position of the stomach. We watch the food enter the stomach; we see the peristal-

tic waves begin and end, and we note the ejection of food through the pylorus. We can trace the food from the time it enters till the stomach is empty. By the X-ray pictures we see the filling, defects, kinks and abnormalities. By this means alone we could tell what the stomach is able to do in a day, and by a series of examinations, could tell what it would do most of the time.

There are serious obstacles that would prohibit our studying each case for any great length of time by means of the X-ray:

First, all cases cannot be brought to the Roentgenologist, and the apparatus cannot be carried to the patient.

Second, the test meals could not be given continuously.

Third, and last, but by no means least, the expense in prohibitive. However, when a reliable Roentgenologist can be reached, a diagnosis can usually be made.

The stomach tube can be used by all physicians and can be used in most cases except where hemorrhage is in progress or has recently occurred, and frequently even then.

By means of the tube we can ascertain the amount of food and the amount of gastric secretion for any given length of time.

The stomach can be washed before supper, a definite meal given, and the contents removed at a definite time. By a series of examinations we can ascertain the capabilities of the stomach.

By means of the X-ray, the stomach tube and the subjective and objective symptoms, we can arrive at a pretty definite conclusion.

Having made the diagnosis, how shall we treat the condition?

Retention without obstruction requires more skill, perseverance and patience than retention with obstruction.

Treatment—The treatment of retention without obstruction must be based on two principles: First, removal of the cause, or curing the disease of which myasthenia is only a symptom. Second, restoring the muscles to a healthy condition.

The first embraces too wide a field for a paper of this kind. The second we will consider briefly under six heads—diet, hydrotherapy, electricity, massage, rest and exercise, and medical treatment.

Diet—As we are dealing with a weakened organ in a debilitated patient, we must strengthen both without overloading either. Frequent meals in small quantities, so prepared as to require the least effort on the part of the stomach walls, should be given. Attention must be paid to the necessary calories and the proper proportion of proteids, fats and carbohydrates to build up the general system, to strengthen the muscles, though at the same time avoid such foods as would increase fermentation, putrefaction, and irritate the kidneys in their elimination.

Hydrotherapy—Cold packs, cold douches and cold friction to the epigastrium, when properly given, have a very beneficial effect. If there is soreness or pain in the epigastrium, hot packs on the abdomen and spine will give a great deal of comfort. The cold spray on rising in the morning is a splendid tonic to most people.

Electricity applied to the abdomen and in the stomach has been highly recommended by Einhorn, Boas and others.

Massage after meals aids in emptying the stomach. General abdominal massage should be given when the stomach is empty.

Rest and Exercise—The patient should always rest after meals and, if very weak, should be put to bed until sufficient nourishment has been appropriated to stand the strain of being up.

If there is no dilatation, walking, horseback riding, swimming and calisthenics are beneficial. Automobiling is not good.

When dilatation or prolapse exists, the patient should be kept in bed for four to six weeks, with the foot of the bed elevated.

Properly fitted bandages are very comforting to some patients.

Medical Treatment—Give as little medicine as possible, but it is often necessary to use drugs to counteract hyperacidity, to decrease the flow of acid, or to supply the deficiency of acid and enzymes, and to stimulate the secretion from the glands.

Bitter tonics with some form of strychnine are very beneficial to stimulate the muscles and help to restore tone.

Retention with organic obstruction usually means starvation and death, or a surgical operation, and sometimes both.

204 *East Franklin Street.*

WHERE DO OUR ALEXINS COME FROM?

By L. J. SIMONTON, M. D., Okonoko, West Virginia.

In order to refreshen the memory of those who have forgotten what an *alexin* is, I will attempt to define it.

Alexins are substances present in the blood and lymph which protect the organism by neutralizing the toxins invading said organism whether chemical or bacterial. They are supposed to be different from anti-toxins in that they are present prior to the entrance of the toxin. They also seem to be present in definite quantity and, while capable of neutralizing a certain amount of toxin for a short period of time, they are overpowered by large or long continued doses of toxin. There is no doubt that these substances play a much greater part in the production of *immunity* and their absence in the phenomenon of *anaphylaxis* than has been accorded them.

It would seem also that certain persons whose alexins protect them for a time are later incapable of forimng anti-toxins. We say "they are sensitized." "They are secondary anaphylactics." I would say that *they are not sensitized*, but that "*their alexins are exhausted.*"

The word anaphylaxis means "*without protection.*" A true anaphylactic then would be a person who *had no alexins to start with* and who is also incapable of forming anti-toxin for a given toxaemia. A "secondary anaphylactic" would be one who had the alexins but, when these wore out, would be unable to form antitoxins.

We have seen persons who could not eat certain foods, for instance, eggs and shellfish; others who could not take certain drugs, such as quinine; still others who could take certain drugs such as podophyllin for a time, but later became, as we say, "sensitized"; others who were violently affected by podophyllin from the very beginning, and still others who could take podophyllin indefinitely.

What is the explanation of all this? It must lie in the alexins. Those affected by drugs or horse-serum immediately have no alexins. They are true anaphylactics. Those affected after a time are those whose alexins wear out. Those who are never affected have alexin to start with, and when this wears out manufacture anti-toxin.

From the above facts the writer has deduced several theories bearing on the etiology of disease already published. It has seemed reasonable to him, for instance, that *eclampsia* is a case of alexin at first and, the alexin wearing out, there has been no formation of anti-toxin in its place. The toxic substances in this disease are the excretory products of the foetus. *Cancer* is a case of alexin at first, alexin wearing out, insufficient formation of anti-toxin, then no formation. During stage of *insufficient* formation of anti-toxin, removal of bulk of growth lessens the quantity of toxin, allowing small quantity of anti-toxin to neutralize small quantity of toxin. Later on, when no anti-toxin is being formed, removal of bulk of tumor does no good. The smallest portion left is toxic and will thrive in the form of metastases. Toxin in this disease is excretory products of embryonic (perhaps atavistic) cells.

Our alexins then are mighty important. Where do they come from? It is reasonable to suppose that they are derived from the glands which control the metabolism of the body through elaboration of internal secretions, but where do they derive their anti-toxic properties for substances hitherto foreign to their host?

We are now getting into deep water. We know that there is a difference of chemical composition of the minutest bacteria,—hence the success of autogenous vaccines where stock vaccines have failed. These little organisms then beget others of similar chemical composition, even when transferred to artificial culture media. They are also similar in structure and form (physical characteristics) just as the father's image is often portrayed in his offspring through the medium of one infinitesimal spermatozoon. The alexin then contained in that spermatozoon constitutes part of its chemical composition. This cell begets other cells of like chemical composition just as do the bacteria. Here then we have one explanation of alexins,—heredity, in other words. They are not the result of our own activity, but the work of our forefathers. For every disease from which we enjoy immunity our ancestors had to manufacture anti-bodies through suffering an attack. We only get a little of it, though, more or less attenuated,

so if our infection is *heavy* we must make our own anti-toxin.

Although doubtful, it is still possible that some of our alexins are derived from eating the flesh of diseased animals, the toxin contained in such food being a stimulus to antibody formation. For instance, a few days ago I killed a chicken. When cleaned, it was noted that the lungs were in, or rather one lung was in a state of "grey hepatization." This chicken then was suffering from "pneumonia" and had certainly in its blood the toxins excreted by the pneumococcus. Had this chicken been eaten (which it would had I bought it dressed) and had not these toxins been destroyed by heat of cooking, my internal secretions would have made an anti-toxin which later on might have served me as an alexin. Who knows?

GROWING FINGERS.*

By CHARLES V. CARRINGTON, M. D., Richmond, Va.

We should never forget what a wonderful mother nature is; "*vis medicatrix naturae*" should be more to the front in this day of meddlesome surgery than it is allowed to be.

Conservative surgery in hand injuries should be more insisted on. By conservative surgery I mean the surgery that conserves or saves every single possible part of a phalanx.

We are too prone, in order to get quick results and good cosmetic effects, to cut off and throw away a crushed and lacerated finger end down to good clean tissue and skin, just to get a nice stump and quickly healed wound. It is much easier to cut off fingers than to grow them; for growing fingers is a slow and tedious process, requiring careful, tender and intelligent dressing of the wounded member from the initial dressing to the final one. A bungling, injudicious assistant can ruin days of repair, reconstructive work, by a rudely administered cleansing bath and dressing.

We know the wonderful efficiency of organized blood clot in bone repair work. So the leading thought and the absolute essential in finger repair work, or rather growing finger work, is the assured protection from any and all disturbing or injuring influences which might by any chance arise. Your wounded finger end must be thoroughly and fully protected from the beginning to the end of the period of repair work.

Some years ago Mr. B. H. G. came to my office with a badly hurt right hand. He gave the following history: While hurrying to catch a street car in Washington, D. C., he slipped and fell, face downward, on the icy avenue, sliding forward with his hands outstretched before him; before he could stop himself, or be stopped, his right hand got under the front wheel of the street car he wished to board, and quicker than thought, his index finger and the second and third fingers on his right hand were badly crushed and lacerated. A friend hurried him to a prominent surgeon, who advised the removal of the first phalanx of the crushed index finger. Mr. G. demurred, asked for, and obtained, proper dressing for his injured hand. He at once caught a train for home. When he arrived in Richmond three or four hours after the injury, he reported to me for treatment. I found the second and third fingers on his right hand mashed and cut, but no lost tissue except the finger nail on the second finger was torn away. A comfortable dressing, with apinol as a local antiseptic, was applied, and no further worrying thought given to these two fingers; but the index finger was a poser. The end, with the finger nail, had been mashed off, and the finger was a crushed and bloody mass. I thought at first sight that the Washington surgeon was safe in advising cutting the thing off, at least to the first phalanx. The one thing that struck me was the adherent matted blood clot which had formed during the three or four hours' trip to Richmond. So I said, "Let's try and save this finger; if it doesn't do all right, I can take it off just as well a week from now." I told the patient that recovery would be slow, and many and painful dressings would be necessary. Against this, a nice clean stump could be made at once, at certainly the second joint, and healing would be rapid and sure. He elected to let me try and grow him a finger.

Today he has a perfectly useful index finger with a rather stubby finger nail, the whole finger being not more than a fourth of an inch shorter than the index finger of his other hand.

The manner of treatment was as follows: The primary dressing was carefully removed and all possible blood clot left undisturbed.

*Read before the Tri-State Medical Association of the Carolinas and Virginia, at Durham, N. C., February 21-22, 1917.

A piece of office letter paper was rolled into a cylinder slightly longer than the injured finger and bound around with adhesive. This paper cylinder was thoroughly greased with Ky so it would slip on the finger easily. It was then slipped on and made to cover snugly the whole finger: projecting about an inch longer than the finger was, so as to insure protection for the injured end. Apinol was liberally applied and a soft dressing with an additional wooden finger splint applied.

On the second day the outer dressing was removed, not the protecting paper cylinder, and a gentle irrigation of normal salt solution given, then the protecting splint dressing was re-applied. This same treatment was given every other day until the sixth day, when a new paper cylinder gently replaced the rather dilapidated first one. In two weeks a rather presentable finger was on hand and in eight weeks a good nail and useful finger was our reward.

I must apologize for going so minutely into details, but every step is essential and important if you would get good results.

The two following cases will be more quickly gone over:

Mr. A. C. H., in attempting to move a very heavy bath tub, got his right hand caught between the brick wall and the tub, and had the index finger and second finger badly crushed. When he reported to my office I found the index and second fingers minus finger nails, and both fingers mashed and crushed almost to the second joint. Recalling Mr. G.'s case, I advised the patient to "let's try and grow two fingers," explaining the difference in time and treatment between a quick, clean ablation and early healing; and a tedious and careful dressing time of several weeks. He elected the growing treatment. The same carefully adjusted, protecting paper cylinders were applied to both fingers, and every detail of gentle and cleanly care instituted. In due time he had two slightly shortened, rather stubby nailed fingers, but, oh, such useful fingers he calls them, as he strokes them when recalling the tedious dressings of days and weeks.

Mr. R. L. S. was badly injured while oiling some machinery in the paper mills. His right hand was caught and fearfully crushed and mangled. He was carried to a Hospital, where he was prepared for operation, and advised that his right hand, or what was left of it, would be removed at the wrist. He demurred, then kicked, and declared no one should operate except his family physician. I was called, and the ambulance very kindly moved him to another hospital. Today he has a good thumb and most of his index finger, with stubs of the other fingers. He is able to do good remunerative wage-earning work, and is very thankful for that thumb and index finger, both of them grown a little, but shortened in the saving.

I have reported these cases, and the treatment of them, in the hope that the point may be emphasized that fingers can be saved and at times actually grown.

932 *Park Avenue.*

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 252.)

Epithelioma of Posterior Pharyngeal Wall Cured With the Electrocautery.

By DUNBAR ROY, M. D., Atlanta, Ga.

Female, aged twenty-seven years, first seen July 29, 1913. Previous and family history negative. Present history: For last three months had suffered with a soreness and throbbing in her throat. Had been treated continuously without result. Examination showed a rounded ulcer on the posterior pharyngeal wall at center, one-half of which was hidden by the soft palate; dirty grayish in appearance, with edges sharply defined; about one-half inch in diameter, and extending as deep as the superficial aponeurosis. A piece excised showed it to be an epithelioma.

Removal by means of the electrocautery point, well outside of its edges. No reaction and no discomfort followed. Healing perfect under one application. After three years there are no signs of a return.

Unfortunately, clinical observers are too prone to classify all malignant growths of the throat under the general term cancer, without distinguishing between the different forms of carcinoma and sarcoma. This statement is made because the writer has found it almost

impossible to correlate all cases recorded, in that many of them were reported in the most unexpected places, and not under the headings where one would expect to find them. As Moreil McKenzie and others have pointed out, the disease is often so extensive when first examined that it is impossible to tell its point of origin.

Textbooks are very vague in the discussion of this subject. It has now been three years since the case here reported has been healed, and there has been absolutely no sign of a recurrence. The results obtained in one case, especially of the cancerous type, certainly do not justify any positive deduction, but the writer believes that the thorough and judicious use of the electrocautery offers the best chance for a good result.

DISCUSSION.

Dr. J. Solis Cohen, Philadelphia: I have been very glad to hear the paper by Dr. Roy, because it exemplifies the opinion that epithelioma, taken early, before there is any glandular involvement, can be cured. The method which he adopted is an excellent one. In the first place, he eliminated the growth, and a certain portion of healthy tissue around it, with the cautery. The heat of the cautery extended and cooked some of the area around that growth, and entirely getting rid of the growth, he of course had a normal return of tissue. He got rid of the entire growth except as far as the scar tissue was concerned.

Some time previous to the twenty years' investigation, which he spoke of, I very well remember a case in the clinic of the Jefferson College Hospital. It was a case in which there was a spontaneous cure of a growth similar to the one mentioned about the size of the end of the thumb. A portion was removed with forceps for examination, and in the interval waiting for the report the patient was allowed to go home. I powdered the area and let him go; he was a carpenter, sixty years of age. The man was instructed to return at the next clinic, and when he did so he looked better, and nothing else was done. The specimen was reported as epithelioma. I do not, however, attribute it to the powder, but have always looked upon it as a case (such rare cases have occasionally been reported) of spontaneous retrogression of a pharyngeal epithelioma.

Dr. Cornelius G. Coakley, New York City: I think the case of Dr. Roy is exceedingly interesting. It presents one phase, however, to my mind, which is a little doubtful, and that is, that I understood the patient was examined only in frozen section. I think most pathologists will feel a little bit in doubt, as to their examination of a frozen section.

The next point is the unusual absence of glandular involvement in this area. I have never seen a malignant process, even fairly early, on the posterior pharyngeal wall, that did not have the glands involved. It may have been some particular type of cancer—some peculiar form, different from the average type which we ordinarily see.

The next point is one which I think we ought to take up seriously, and that is the absence in the literature of records of cases of involvement of the nose, throat, accessory sinuses, pharynx and larynx. Within the last year I personally ran across at least one dozen cases of malignant disease of rather unusual type—ethmoidal, maxillary, etc. I had one case recently involving the sphenoid and nasopharynx—whether primary or secondary, I could not tell. Those cases are unrecorded in the literature, and I have no doubt that those of us who are working in large clinics have numbers of these cases. I think we should report all cases of malignancy seen during the year and have them tabulated in some form for reference. It is really surprising to note the relative frequency of these cases as compared with the actual records.

Dr. D. Bryson Delavan, New York City: There is nothing so uncertain about the prognosis in a case of socalled epithelioma. I say "socalled," because we cannot get further information histologically than the microscope is able to give us. When the microscopic examination is made and the findings reported, there our information ends. There are in the recollection of most of us isolated cases which differ entirely in their result from the average. For example, the solitary case upon which Dr. Cohen operated twenty years after its inception, in which the patient lived fifty years after the first operation. That is a long while for a patient to survive epithelioma.

In contrast to that which represents a type now and then spoken of and recorded amongst thousands of others, I had a case of epithelioma of the epiglottis which was discovered

so early that the growth was only about half the size of a split pea, one-quarter of an inch in diameter, on the extreme margin of the epiglottis. In that case one-third of the epiglottis was thoroughly removed, as far down as possible, and the disease apparently completely extirpated. After four or five years there was another mass there—a perfectly normal healthy condition—and then the patient redeveloped the disease, from which he died after a comparatively short course.

Now, that case is instructive because it shows that if we operate, as we suppose, far and wide out of the lesion itself, nevertheless structures in that neighborhood may have already become involved after all, and with the lapse of time the involvement will appear and the disease go on, in spite of all treatment, to the destruction of the patient.

We know about this subject and the number of such cases that have been studied all over the world, and reference to the poverty and misleading nature of the statistics is very timely, I called your attention yesterday to the work of the Society for the Prevention of Cancer. I wish now to bring that before you again, and to urge as forcefully as I can the desirability of carrying out the suggestion of the last speaker. As chairman of that association, I can say that the association stands ready to give all the aid it can to any institution which may interest itself in the matter of statistics. Apparently, this is now the thing most needed. I hope this society will bear that in mind. Each man here is a central influence in the place where he lives, as well as in the vicinity of that place, and I hope each man here will do the best he can to help forward this work for the study of cancer.

Dr. Dunbar Roy, Atlanta (closing the discussion): In reply to Dr. Coakley, there was a frozen section made for diagnosis, and later on this was confirmed. The case was operated upon, however, under the diagnosis of the frozen section.

I have nothing further to add, except the fact that anyone who has had any of these cases and tried to look up the literature, will know what an awful burden it is. It is almost impossible to get anything whatever. With the majority of writers "cancer" seems to be a general term, used to cover everything; one gets into a labyrinth of cases from which nothing can be made out. The words of Dr. Delavan are very timely, indeed. We certainly ought to be a little more scientific and get every case recorded as far as possible, as from its point of origin.

Extensive Cholesteatoma Following the Luc-Caldwell and Killian Operations, Simulating Sarcoma. Case Report.

By VIRGINIUS DABNEY, M. D., Washington, D. C.

Man, forty-two years of age, gave no subjective symptoms of his grave condition other than nasal stoppage. Exophthalmos marked, deviation of septum complete, polyps in middle strait. Acute exacerbation three days later. Luc-Caldwell operation and extensive exenteration of ethmoid bone, with subsidence of symptoms. Five days after this, symptoms returned, and Killian operation done, with perfect functional and cosmetic results. Eleven days later abscess in cheek formed and was evacuated by incision below and parallel to the lower eyelid. Great distention of cheek, frequent spontaneous hemorrhages, convincing radiographs and wooden-like hardness of mass in cheek suggested sarcoma. Two months later, operation revealed immense collection of true cholesteatoma; odor overpowering; all bone above, below and on each side of mass eroded and totally destroyed, including floor and inner wall of orbit, two-thirds of malar bone and all of outer wall of antrum. Present condition of patient, marked asthenia; death only matter of short time. Syphilis, tuberculosis, malignancy, all excluded by proper methods.

DISCUSSION.

Dr. Oscar A. McKimmie, Washington: I had the privilege of seeing this case a number of times with Dr. Dabney before operation, and of being present and helping him with the operation which he has detailed. He has given a very complete report of the condition as it existed, and there is very little I can add about the case except to explain that the condition might very readily have given rise to a misleading interpretation of the X-ray plate. The superior process of the bone was the thickest bone I have ever seen in living subject or in dead. One portion of it was at least one-half inch thick, solid and ivory-like in character, and these cells in the ethmoid which Dr. Dabney has referred to, I have never seen in a living or dead subject. They were very hard

and extremely thick, and this explains very readily why at the operation it was impossible to get away all the cells. At the secondary operation it was shown to be a very dense bone, either an anomaly of development, or the result of chronic inflammation.

The question of the origin of the cholesteatoma is an interesting one. There is no question as to the character of the mass, because all its clinical appearances and the laboratory findings proved it to be cholesteatoma. The mass taken out at the secondary operation, I should say was as much as one could hold in the hand. The swelling from the malar bone to the bridge of the nose was a perfect straight line, and the odor was something that I have never experienced in an operating room before. My own impression is that this secondary infection, of whatever type it was, which was associated with this sinus, was probably the starting point of the cholesteatoma formation.

Dr. Joseph H. Bryan, Washington: I have seen one or two instances where there was ivory hardness of a white, previously soft mass, where we found suppurative conditions of long standing. It probably was an osteitis which eventually produced this cholesteatoma mass.

Dr. Virginius Dabney, Washington (closing the discussion): I did not go into details about how I arrived at the conclusion, except that it was examined under the microscope by a pathologist. Cholesterin crystals were found, and this would confirm the diagnosis. I think Dr. McKimmie's theory is a very tenable one. The hole was right here, and we never made it heal; nothing would make it heal; it is open now.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

International Clinics. A quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. By leading members of the medical profession throughout the world. Edited by H. R. M. LANDIS, M. D., Philadelphia, with a number of prominent collaborators. Volume II, 27th series, 1917. Philadelphia and London. J. B. Lippincott Company. Cloth. 8vo. 313 pages. Price, $2.

This volume contains reports of a number of interesting clinics by professors in representative medical schools and articles by well-known specialists. These are on such a variety of subjects that the volume should be of general interest.

Practical Medicine Series. Volume IV. Gynecology, and Volume V, Pediatrics and Orthopedic Surgery. Under general editorial charge of CHARLES L. MIX, A. M., M. D., Northwestern University Medical School, Chicago. Series 1917, Chicago. Year Book Publishers, 608 S. Dearborn Street. Cloth. 12 mo. Price, $1.35 each; series of 10 volumes, $10.

The articles abstracted in these volumes have been edited by several members of the faculty of the Northwestern University Medical School, Chicago. They give the gist of many articles appearing in leading medical journals for the preceding year. These are culled especially from American literature this year, owing to the falling off in the number and importance of articles in these departments in European journals, owing to the war.

Editorial.

Relief of Sick and Disabled Soldiers.

This is part of the Red Cross work done in France and consists of caring for those who are discharged from the service on account of wounds or physical disabilities. The latter receive no pension and the separation allowance to wives and children ceases upon their discharge. Many of these who are not tubercular are so broken in health that their earning power is slight. The uniforms of many are taken from them soon after their discharge and they have no money with which to buy clothes. The Red Cross is undertaking to give temporary relief to the men immediately after discharge from the Army, and more permanent relief to the tubercular and unemployable. Special provision will be made for the tubercular and, when possible, hospital care will be secured.

Re-education of mutilated soldiers, or those discharged on account of wounds, is being carried on partly by the Government and partly by private organizations supported by voluntary contributions. There are between fifty and sixty schools in France, for this work, but many of them are small. There are a few large and important, which are believed to be doing excellent work and which could extend and improve their work if a reasonable amount of additional money were provided.

The American Red Cross is, at the present time, as an experiment, each week providing about fifteen of these wounded with artificial limbs. The average cost of an artificial limb is about $80. The Red Cross has also undertaken to aid in establishing homes for a small number of blind soldiers, who have been re-educated and are to earn their living henceforth.

On invitation of the Army authorities and with the approval of the Sanatorium Association in France, the American Red Cross has arranged to complete the unfinished building of the tuberculosis sanitorium at Bligny, about twenty miles from Paris. This is a large building, intended to accommodate 200 patients and was about 80 per cent completed when all work was discontinued on the opening day of the war, and everything has remained just as it was left. This will be made ready for use before winter and will be used by the military authorities during the war and will revert to the Sanatorium Association afterwards.

Nearly 14,000 Officers in Army Medical Corps.

According to reports issued by the government September 4, there were more than 13,900 officers engaged in the work of the medical department of the army, including regular army officers and the four officers' reserve corps—medical, dental, veterinary and sanitary—connected with the work under the Surgeon-General. It is estimated that at least 24,000 physicians will be included in the personnel of the department when full strength is reached.

Every step in caring for the physical welfare of the soldiers from the time they are sworn into service until they are discharged, comes under the Medical Department. In this work is included inspection of foods to be served soldiers, sanitation, care of the sick and wounded, the operation of field, base and convalescent hospitals, "re-education" of the permanently crippled, handling the supplies for all this work, etc. The total number of hospital beds will be on the basis of 25 per cent. of the strength of the army.

The Medical Department of the army deals only with the soldiers. The Red Cross looks after the civilian and non-combatant populations. Each operates alone in its field.

Medical Staff, U. Va. Base Hospital.

Members of the medical and surgical staff of the University of Virginia Base Hospital have all been commissioned and some have entered upon special training, preparatory to the work abroad. Dr. Lomax Gwathmey, of St. Christopher's Hospital, Norfolk, Va., who is chief of the surgical section, is studying at the Rockefeller Institute, under Dr. Carrel. Quarter-master Chas. S. Venable, of San Antonio, Tex., and Staff Surgeon, C. A. Woodard, Durham, N. C., have been detailed for study in neurological surgery under Dr. Frazier, of the University of Pennsylvania, Philadelphia. Other members of the medical staff now in active military service are: Dr. Hugh T. Nelson, chief of the medical section, at Camp Lee, Petersburg, Va.; staff surgeon Minor Carson Lile, at Ft. Myer, Va.; staff surgeons Walter F. Scott, of Birmingham, Ala.; Kyle B. Steele and Dan H. Witt, of New York City, at Ft. Ogelthorpe, Ga. The remainder of the medical staff will be assigned to active duty at other training camps.

Quarantine Lifted in Rockingham County, Va.

After seven weeks' quarantine because of infantile paralysis, Harrisonburg, Va., theatres were allowed to re-open on the 8th of this month, and churches resumed regular services on the 9th. There were a total of fifty-two cases in Rockingham county and eight in Harrisonburg, with twelve deaths (or one-fifth of the whole number), all in the county. At least a dozen other children are believed to be permanently disabled by the disease. Dr. G. G. Snarr, the city health officer, and the Rockingham County Board of Health, composed of Drs. J. E. Lincoln, J. D. Miller and J. F. Wright, have worked hard since the beginning of the outbreak to prevent a serious epidemic, and have been assisted in their work by Drs. E. G. Williams and W. A. Brumfield, the State Health Commissioner and his assistant, as well as by U. S. Public Health doctors.

Richmond to Have a "Reconstruction" Hospital.

Richmond is one of the nineteen cities selected by the War Department in which will be located a "reconstruction" hospital, where the United States will begin the work of rehabilitating for private life its soldiers who return wounded from the battlefields of Europe. The other cities are Boston, New York, Philadelphia, Baltimore, Washington,

Buffalo, Cincinnati, Chicago, St. Paul, Seattle, San Francisco, Los Angeles, Denver, Kansas City, St. Louis, Memphis, Atlanta and New Orleans. The hospitals at Boston, New York, Washington and Chicago will probably be the first built. They will have 500 beds with provision for doubling the capacity, if necessary. The work of making over the men crippled in the service of the country will be left to the surgeons who remain at home. Only soldiers who will be unable to return to duty or those whose convalescence is expected to extend over a period of a considerable number of months will be sent to these hospitals. When the men are able to take up industrial training, further provision will be ready for them, and employment secured along the lines best suited for each.

Appointments in Medical Department, Wake Forest College.

At a meeting of the Board of Trustees of Wake Forest College, North Carolina, August 24, Dr. Thurman D. Kitchin, of Scotland Neck, N. C., was appointed professor of physiology and pharmacology to succeed Dr. Eugene A. Case, and Dr. Luther T. Buchanan, Buffalo Lithia Springs, Va., was appointed professor of bacteriology and pathology, to succeed Dr. W. T. Carstarphen, who has been appointed a captain in the medical officers' reserve corps, U. S. A., and will probably be assigned to a base hospital in France. Both of the new professors are North Carolina men and graduates of Jefferson Medical College, Philadelphia.

The Southside Virginia Medical Association

Met at South Hill, September 11. While the medical program was short, the meeting was enjoyed by those in attendance and supper was served at the conclusion of the session. Members of the reception committee were Drs. H. M. Snead and S. S. Northington, South Hill, and Hunter Marrow, Union Level. Dr. Joel Crawford, Yale, and Dr. E. F. Reese, Courtland, are president and secretary, respectively, of the society.

Rapid Growth of the Birth Registration Area.

The Registration Area for Births was established in 1915 and was then composed of ten states and the District of Columbia, representing 10 per cent. of the territorial extent of the United States, but containing 31 per cent. of the country's population. For this area the Bureau of the Census has recently issued its first annual report, entitled "Birth Statistics."

Maryland, Virginia and Kentucky have recently been admitted to the Registration Area for Births.

The outlook for a very rapid growth of this Registration Area for Births is so good that a word of cheer to the states outside should be given. The need of complete birth registration is recognized now as never before. The age of the soldier must be known, and so a new argument for birth registration comes to the United States. Since war was declared, tests of the completeness of birth registration have been made by special agents of the Census Bureau in Virginia and Kentucky, and both these states secured a rating of over 90 per cent., which represents the degree of completeness required for admission to the area.

Similar tests are now being made in Indiana and New Jersey, and before the year is over will be conducted in North Carolina, Ohio, Utah and Wisconsin. Several other states are nearly ready to seek admission, and it is by no means a wild prediction that the Birth Registration Area within the next two years will be more than trebled in size and will contain over two-thirds of the population of the United States.

One physician recently became so thoroughly aroused to the desirability of recording births that he reported to the local registrar 450 births which had occurred in his practice since 1900. Parents and physicians everywhere are awakening to the importance of this matter and the fashion now is to register baby's birth.

The Medical Society of the District of Columbia

Will, on October 17, celebrate the one hundredth anniversary of its birth. An elaborate literary program has been planned to be followed in the evening by a banquet. The president, Dr. G. Wythe Cook, will preside over the literary program, and Dr. Joseph S. Wall will be toastmaster at the banquet.

Major Isaac H. Jones,

Of the Medical Officers' Reserve Corps, gave a most interesting talk to the medical profession and public of this city, September 7, on the methods of selecting suitable airmen

from applicants for the aviation service, and the establishment of an "Aviation Examination Unit" in Richmond. Moving pictures and practical demonstrations on volunteers from the audience, of the peculiar tests used in this examination, added much to the interest of the lecture.

Occupation in Relation to Mortality.

As an aid in checking up the relation of occupation to mortality more accurate and definite statements of the occupations of decedents should be written upon death certificates. Until this is done, mortality statistics by occuptions will continue to be unsatisfactory.

The Bureau of the Census is planning in the near future a monograph on tuberculosis. This would be made much more valuable if it were possible to show accurately the occupation of decedents. As physicians we should appreciate the importance of such statistics and the Bureau of the Census has requested that we take pains to see that the occupation items upon all of our death certificates are properly supplied. This is for all deaths as well as those from tuberculosis. Can we not add to the interest of the monograph by answering fully these questions?

German Air Raid on American Hospital.

On the night of September 4, a German air attack on American Base Hospital No. 5, attached to British forces, and known as the Harvard unit, resulted in the killing of First Lieutenant W. T. Fitzsimons, Medical Officers' Reserve Corps, of Kansas City, Mo., (the first American officer to lose his life in the war), and the wounding of three other officers, six privates, a woman nurse and twenty-two patients from the British lines. The whole unit showed great pluck and the surgeons were at work for twenty-four hours, one surgeon relieving another, attending victims of the raid and 200 wounded sent in next day from the trenches of the British expeditionary forces.

Addition to the Lewis-Gale Hospital.

On account of the crowded condition of the Lewis-Gale Hospital, Roanoke, Va., it was found necessary to build an addition. This has been placed in the shape of an "L" running parallel with Luck Avenue for eighty-four feet from the back part of the main building, and another "L" at right angles to this for sixty-four feet. The building is now in the shape of a "U" with a large open court 45x40 feet, which is concreted. It is five stories high, including the sub-basement, which is well ventilated and lighted and contains rooms for orderlies and other help and for storage purposes.

The "L" running back from the "L" which parallels Luck Avenue, is used as the nurses' home. There are twenty rooms in the nurses' home besides private baths, class rooms and reception parlors.

On the ground floor of the main addition on Luck Avenue there are eight offices, a reception room, and chemical, pathological, and X-ray laboratories.

The three floors above have rooms for patients. One of these rooms is an associate room, which has three beds. Four of these rooms have private baths between them so that two of these rooms with a connecting bath may be used en suite or the bath may be used privately for one room. Most of the rooms have stationary wash-stands and southern exposure. On the rear of this building are three porches forty-five feet long and ten feet wide, which are screened. Leading out to these porches are small reception and waiting rooms, where convalescent patients may visit their friends. In the old building there are twenty-six beds, some of these being in associate rooms, which accommodate three and four patients. This gives a capacity of fifty-two beds exclusive of the nurses' home, which is connected with the main building and so arranged that it can be utilized for patients at any time. The heating system is vapor. There is a vacuum cleaning system in the building. The construction of the addition is like that of the original building, the architectural design being the same, and the building is of slow burning construction. The old building has been entirely done over on the inside as well as repainted on the outside. There are three operating rooms in the hospital, one on the ground floor, for emergency work, and two on the top floor, one of which is the main and original operating room; the other is a smaller room, which is used for emergency work and pus cases. These two rooms, being on the top floor, are entirely isolated from the rest of the building. There are two laboratories, one on the top floor, which is run in connection with

the operating rooms on this floor, and one on the ground floor, which is run in connection with the offices.

The Lewis-Gale Hospital is a private hospital, owned by Drs. S. S. Gale and W. R. Whitman, for the treatment of their private cases.

Married—

Dr. Edward LeBaron Goodwin, Ashland, Va., and Miss Winifred Syster Anderson, Grosse Ile, Mich., September 12.

Dr. Robert G. Wiatt, Richmond, Va., and Miss Nannie May Rudd, Belona, Va. September 13. Dr. Wiatt is a lieutenant in the medical officers' reserve corps.

Dr. Frank Albert Farmer, of Roanoke, Va., a lieutenant in the medical officers reserve corps, U. S. Army, and Miss Nannie Doak Wilson, of Danville, Va., September 11.

Dr. O. Raymond Yates, who graduated from the Medical College of Virginia in 1916 and was appointed interne at Lake View Hospital, Philadelphia, and Miss Annie Maud Plunkett, of this city, September 18. After a visit to Western North Carolina, Dr. and Mrs. Yates will make their home in Suffolk, Va.

Dr. Samuel Beverly Cary and Miss Frances Hayward Koehler, both of Roanoke, Va., September 12. Dr. Cary, who is a lieutenant in the Medical Officers' Reserve Corps, has been ordered to report in Washington.

Dr. Charles R. Irving, recently of Sheltering Arms Hospital, Hansford, W. Va., but now lieutenant of the medical corps, First Virginia Regiment, and Miss Elizabeth Logan Bentley, Richmond, September 18.

Dr. James H. Ferguson, Clifton Station, Va., and Miss Blanche Darnall Smith, Baltimore, Md., September 11.

Dr. and Mrs. Thomas W. Murrell

Have returned to their home in this city, after a motor trip through the Valley of Virginia and a short stay at Warm Springs, Va.

Medical Faculty Promotions at U. Va.

With the opening of the University of Virginia, this month, the following promotions went into effect: Dr. Theodore Hough, formerly acting dean. to dean of the medical school; Dr. James A. Waddell, associate professor, to full professor of pharmacology and materia medica, and Dr. John H. Neff, instructor, to adjunct professor of genito-urinary surgery.

Dr. E. D. Wells,

Clifton Forge, Va., who has been on a trip to Kentucky with his wife, has returned home.

Dr. Wilson E. Driver,

Norfolk, Va., was recently registered at Mountain Lake, Va.

Dr. L. H. Reichelderfer,

Washington, D. C., has been commissioned Major in the Medical Corps, District of Columbia National Guard, and been ordered to Camp McClellan, Anniston, Ala., for assignment to duty.

Drs. Mayo Present Gift to University of Minnesota.

Drs. William and Charles Mayo, the famous surgeons of Rochester, Minn., have turned over to the University of Minnesota the bulk of their entire savings of a generation. They stated that the money came from the people and they felt it should be returned to them and that it was their wish that it should be used for the furtherance of medical investigation and research and higher education. The total amount, which is invested in secureties, is $1,650,344. The acceptance by the University of the fund means the taking over by that institution of the Mayo Foundation at Rochester, Minn.

Dr. Edward McGuire

Has returned to his home in this city after spending some time at Berryville, Va.

Dr. and Mrs. Paul E. Redd,

Of Highland Park, Richmond, took a motor trip to Petersburg and Emporia, Va., early this month.

Dr. McGuire Newton

Returned to his home in this city early in September after a visit to Atlantic City, N. J.

The West Virginia State Medical Association

Is to hold its annual meeting in Fairmont, October 2, 3, and 4, under the presidency of Dr. J. E. Rader, Huntington. Dr. J. Howard Anderson, Marytown, is secretary.

Dr. Walter Joseph Otis,

Who is connected with McLean Hospital, Waverley, Mass., has been appointed a first lieutenant in the Medical Reserve Corps, U. S. A., and has been ordered to Ft. Thomas,

Ky., to examine the personnel of the post there in his specialty—nervous and mental diseases. Dr. Otis has many friends among Virginia doctors, having graduated at the Medical College of Virginia several years ago and having later served as an interne at Memorial Hospital, this city.

Dr. Josiah Leake,

Deanes, Va., has been a recent guest at his father's home in Ashland, Va.

Dr. and Mrs. E. Trible Gatewood,

Formerly of Toano, Va., are spending their vacation on Mountain Lake, N. Y. Dr. Gatewood returns to New York City about October 1, to continue his hospital service.

Base Hospital at Anniston, Ala.

Work has started on a $1,000,000 base hospital at Camp McClellan, Anniston, Ala. It will cover 60 acres of ground and comprise seventy buildings, all single story structures, connected with roofed corridors and slated walkways. In this way, patients may travel miles in wheel chairs without getting from under the roof. The buildings, each 37x75 feet, will cost $8,000 each. In addition there will be nurses' quarters, offices, laundry, garage, storehouses, chapel and mortuary.

Attend State Trapshoot.

The following doctors were among those who attended the State trapshoot at the West End Gun Club, in this city, early this month: Drs. E. C. Watson, Roanoke; R. H. Brockwell, Richmond, and L. F. Hansbrough, Front Royal.

Dr. Lewis C. Morris,

Birmingham, Ala., who spent some time with his family at his country place near Montpelier, Va., has returned to his home.

Members of Permanent Staff.

Lt. Col. Thomas L. Rhoads, M. C., U. S. A., has been named by Maj. Gen. Cronkhite, commanding Camp Lee, Va., as surgeon of the permanent staff for the Eightieth Division of the National Army, which is in training there, and Maj. Henry P. Carter, M. C., U. S. A., has been named assistant surgeon of the staff.

Dr. J. N. De Shazo,

Center Cross, Va., was elected secretary of the Essex County Democratic Committee, at its organization early this month.

Dr. and Mrs. J. Garnett Nelson,

Richmond, have been recent visitors in Hanover and Orange counties, this State.

Dr. William F. Henderson,

Blacksburg, Va., was a guest at Blue Ridge Springs, Va., early this month.

Donation to U. Va. Base Hospital.

The Hopewell, Va., chapter of the American Red Cross, has donated $10,000 toward the University of Virginia base hospital. Richmond had already given $30,000, Norfolk $10,000, and other cities throughout the State are contributing to the equipment of this unit.

Pasteurization Plant for Newport News, Va.

Surgeon S. B. Grubbs, of the U. S. Public Health Service, stationed at Newport News, Va., has made public plans for the establishment of a milk pasteurization plant in that city. The plant will purchase the total milk supply of the peninsula, kill the disease germs in the milk, and then deliver milk to the consumers. The Public Health Service will supervise the operation of the plant, and the plan will enable the public to secure milk for less than is now being paid.

Dr. Percy E. Schools,

Montross, Va., has been elected surgeon of the camp of Confederate Veterans of Westmoreland County, Virginia.

Dr. Allen W. Freeman,

Formerly medical inspector of the Richmond Health Department, and assistant State Health Commissioner of Virginia from 1908 until appointed an epidemiologist of the U. S. Public Health Service, in 1915, has been unanimously elected State Health Commissioner of Ohio, at a salary of $6,000, for a term of five years. He has resigned from the government service and will enter upon his new duties on October 1, with headquarters at Columbus.

Books and Magazines for Soldiers and Sailors.

The American Library Association is, at the request of the United States government, collecting books and current magazines for the use of our soldiers and sailors in the camps, at the front, and in the hospitals. In Virginia, the Virginia State Library is acting as the agent of the Association in doing this work. Many books have already been collected in Richmond and other cities of the State, and a very great many more will come in from those sources. It is felt, however, that the people of our State who do not live in cities would like to have an opportunity to participate in the good work, and there is no likelihood that too much literature can be assembled for the purpose set forth. Later on, the Association hopes to be able to secure from the people of the whole country as much as $1,000,000, with which to erect library buildings at the camps and buy the very best books to put in them, but at present the books themselves are being given. So far as Virginia is concerned, they are being sent principally to Camp Lee (near Petersburg), to be cared for temporarily by the Y. M. C. A. It is hoped that such persons reading this notice as may wish to give books or magazines will send them in at once. Magazines should not be over six months old. Any good readable book of general interest—whose binding is in good condition—will be suitable.

Each person who reads this notice should feel that an opportunity is presented him to show his appreciation of the sacrifices being made by our young men in the cause of all.

The books and magazines may be sent very cheaply by parcel post. They should be directed to the Virginia State Library, Richmond, Va.

Dr. T. B. Leonard,

Until recently of Richmond, is now located in Village B, Hopewell, Va.

Red Cross Assists in Sanitation of Cantonments.

The Red Cross has established twelve Sanitary Units for the protection of health in districts surrounding army cantonments and appropriated $106,000 for the work. Newport News and Petersburg, Va., are two of the cities to receive aid in this work. These units are to be placed at the disposal of the Public Health Service and State and County health authorities. Under their direction, they will assist in the sanitation of districts around cantonments and army communities. The Red Cross has also recently prepared to equip five laboratory railroad cars for emergency work. They are to be so stationed that any cantonment can be reached within a few hours upon request from Federal or State health authorities.

The American Association for the Study and Prevention of Infant Mortality

Is to hold its annual meeting at the Jefferson Hotel, this city, October 15-17, under the presidency of Dr. William C. Woodward, Washington, D. C. Information as to the meeting may be obtained of the secretary, Dr. Philip Van Ingen, New York City, or the executive secretary, Miss Gertrude B. Knipp, 1211 Cathedral Street, Baltimore, Md. Dr. Roy K. Flannagan, chief health officer of this city, has been asked to read a paper on the "Special Problems Presented by the War in Rural Work for Infant and Material Welfare."

Dr. Hugh Henry,

Of Petersburg, Va., and family, visited relatives in Keysville, Va., early in September.

Dr. and Mrs. L. F. James,

Hopewell, Va., have returned home after a short stay with relatives in Lawrenceville.

Dr. and Mrs. E. C. S. Taliaferro,

Norfolk, Va., accompanied by their children, were among the visitors at Crockett Springs, Va., this month.

Dr. Charles McCulloch,

Howardsville, Va., was a recent visitor in this city.

Dr. W. A. Brumfield,

Assistant State Health Commissioner, was the recent guest of Dr. R. L. Hudgins, in Farmville, Va.

Removals of Richmond Doctors.

Dr. K. S. Blackwell has moved his offices to Professional Building.

Dr. A. L. Gary has his offices in Professional Building.

Dr. W. W. Dunn has moved to 1840 Monument Avenue.

Dr. C. C. Coleman has moved to The Chesterfield Apartments.

Dr. Manfred Call has moved his offices to Stuart Circle Hospital.

Dr. Cullen Pitt has moved into his new home at 1105 North Avenue, Barton Heights.

Drs. E. W. Gee and James P. Bowles have moved to 1030 West Grace Street.

Public Health Nurses.

Upon the completion of the course just given by the State Board of Health, in the principles of public health nursing, all nurses in attendance who were willing to accept positions were immediately employed by county and city authorities in different parts of the State, and will begin work within the next few weeks. Other positions will soon be available for competent graduate nurses who have had special training in public health nursing. The course recently ended lasted for six weeks and was under the direction of Mrs. Jane B. Ranson, supervisor of public health nursing of the State Board of Health. Lecturers were procured from Richmond and other cities to discuss the various medical, sanitary and social aspects of public health nurses and some field investigations were made.

Precautions Against Diphtheria.

The State Board of Health has issued a bulletin calling attention to the fact that diphtheria antitoxin can now, as in the past, be had at prime wholesale cost, through the Board. It emphasizes the fact that although practically all cases of diphtheria are curable if the antitoxin is given in the early stages of the disease, manifestly prevention is better than having to resort to the curative treatment. The common drinking cup is especially mentioned as a means of spreading diphtheria.

The U. S. Food Administration

Announces the creation of an Advisory Committee on Public Health and an Advisory Committee on Alimentation. The Food Administration, realizing that the nutrition of a people and the condition of its food supply bear intimate relations to the general problems of public health, sought the advice of experts in these lines and thus created the first committee. The second committee was created to gain the active co-operation of experts in the determination of policies of food control from the standpoint of the science of nutrition.

Dr. William H. Welch, of Johns Hopkins, has been named chairman of the Public Health Committee, the rest of the personnel of which is as follows: Drs. Leonard P. Ayer, of the Russell Sage Foundation; Herman Biggs, of the Rockefeller Foundation; David T. Edsall, of Harvard University; Cary T. Grayson, U. S. N., to represent the armed services of the country; A. Walter Hewlett, of Stanford University; T. T. Janeway, of Johns Hopkins University; F. G. Novy, of University of Michigan; Richard M. Pearce, of University of Pennsylvania, and H. Gideon Wells, of Sprague Memorial Institute of the University of Chicago. In addition, Drs. Alonzo E. Taylor and Ray Lyman Wilbur, members of the Food Administration, will be ex-officio members of the committee.

The second committee is composed of some of the most prominent chemists in the country.

It is believed that through the advice and co-operation of these committees, the administration of food control will be enabled always to work for the best interests of the health of the different classes in different sections of the country.

Medical Schools to Admit Women.

Announcement has been made that duly qualified women registered at Radcliffe College would be admitted to the Harvard Medical School this year, the requirement for admission being the same as for men. The council of Radcliffe College will confer the degree of doctor of medicine on women candidates who perform the required work, after they have been recommended by the faculty of medicine of Harvard University.

The College of Physicians and Surgeons, the medical department of Columbia University, New York City, has also decided to admit women on an equal standing with men. This change was made after long consideration and in view of the altered position of women in Europe since the outbreak of the war. The departure was made possible by a gift of $50,000 from George W. Breckenridge, of San Antonio, Texas.

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THE CLINICAL SIGNIFICANCE OF JAUNDICE.*

By CHAS. S. WHITE, M. D., F. A. C. S.,
Washington, D. C.

Jaundice is a striking symptom, capable of many interpretations, and common to diverse pathological processes. If we should attempt to trace the cycle of pigmentation, we learn that red blood cells are usually broken down in the liver, and liberate biliverdin and bilirubin, which are stored up in the gall bladder and discharged at intervals through the common duct into the bowel. Bacterial action in the intestine reduces these pigments to stercobilin, the coloring matter of the feces; much of it is reabsorbed and excreted by the kidneys as urobilin. Excessive amount of urobilin in the urine indicates great destruction of red blood cells, undue absorption, as in intestinal obstruction, or increased intestinal putrefaction.

All forms of jaundice, except the rare condition known as "acholic jaundice" or "congenital family choleamia," are obstructive in nature, either, grossly, in the ducts, or microscopically, in the liver. Obstruction of the cystic duct does not produce jaundice and the gall bladder contains a clear mucoid fluid; a gall stone in the common duct does not distend the gall bladder, as jaundice with enlarged gall bladder rarely signifies gall stones. A stone rarely completely occludes the common duct, but a carcinomatous growth of the pancreas will close it completely; hence the jaundice with a distended gall bladder is suggestive of malignancy.

It has been the practice to discuss two varieties, the hematogenous and the obstructive, but recent writers state that all jaundice is obstructive, though in the types previously known as hematogenous, changes in the liver of an obstructive character could be demonstrated. In experiments, with drugs or toxic substance, hemolytic in action, jaundice would develop, but if the liver were blocked from the circulation, hemaglobinuria and not jaundice would follow.

Two hours after biliary obstruction, bile appears in the blood stream, and while the action of bile on the fatty content of the red cell is hemolytic, anemia is not necessarily dependent upon jaundice.

The slow pulse rate and the lowered pressure is due to the depressing effect of bile salts on heart muscle, and the identical action follows a weak solution of bile applied to the isolated heart of a frog.

Bile is a natural laxative, and its absence from the intestine is likely to be followed by constipation. It is not an antiseptic and the increased fermentation accompanied by gas, so frequently observed in cases of icterus, is probably the result of poor absorption of fats which, in excess, coats the proteins and retards their absorption, allowing putrefactive changes.

Hyperchlorhydria is generally associated with a distended gall bladder or gall stones, and pyloric spasm is commonly present, preventing the escape of hydrochloric acid. It is very possible that the use of olive oil in gall stones owes its popularity to the fact that it reflexly inhibits the secretion of hydrochloric acid, and the patient experiences much relief. Gall stones placed in olive oil will crumble, but we cannot believe that the olive oil will enter the common duct and gall bladder. We know that fatty concretions will pass from the bowel after its administration.

It is said that normal secretions are never bile stained in jaundice, but inflammatory and passive congestion exudates have an icteroid tint.

*Read before the Medical Society of Northern Virginia and the District of Columbia, May 16, 1917.

Jaundice, unfortunately, is not a common symptom of gall stones, for if it were seen more frequent, the disease would be recognized earlier and oftener. John B. Murphy stated that it was present at some time in the course of gall stones in only fourteen per cent. of his cases. Others place the percentage higher, 20 to 25, but all agree that it is not a conspicuous symptom.

Jaundice in cholelithiasis is caused either by a stone in the common duct or such a large stone in the cystic duct that its compression of the common duct is sufficient to retard or prevent the flow of bile.

When jaundice is due to gall stones, it is almost invariably preceded by colic, a few hours or a few days. The icterus appears gradually, becomes a deep golden, and its duration is coincident with the stenosis of the duct. Should the jaundice be remittent, it is likely that the stone is of the ball valve-type, probably in the ampulla of Vater. The yellowness is prominent in the conjunctivae and skin of the abdomen. If the jaundice is intermittent, that is, clears up completely between attacks of colic, it is likely that a stone is lodged in the cystic duct, and the jaundice is created by an extension of the inflammation into the common duct.

The jaundice met with in malignant disease is notable by absence of colic and pain, gradual onset, without remissions, deepening day by day, and finally becoming greenish yellow, almost a bronze.

Courvoisier pointed out many years ago that atrophy of the gall bladder is the rule, if the common duct is occluded from within, as by a gall stone. When a gall bladder is distended, associated with jaundice, the pressure is usually outside of the duct.

Differential Diagnosis:—In acute yellow atrophy there is rapid jaundice, preceded by gastro-intestinal disorders, headache, vomiting, rapid pulse, hemorrhages under the skin and coma. It is usually fatal in a week or ten days.

Catarrhal jaundice is short in its course and recovers. It is usually attended with mild gastro-intestinal symptoms, enlargement of the liver, and leucin and tyrosin do not appear in the urine. It generally occurs in persons under thirty years of age.

Hypertrophic cirrhosis is chronic in its course, painless, and the liver and spleen are enlarged.

Carcinoma of the liver can be differentiated by the loss of weight and strength, by new growths in the liver itself and by the history of malignant growth elsewhere, as it is uncommonly primary in the liver.

In amyloid liver there is usually a history of syphilis, tuberculosis or suppuration of long standing.

In syphilis of the liver, the organ is apt to be irregular in shape, a history of syphilis may be obtained, the Wassermann reaction is likely to be positive, and the therapeutic test is of great value.

Gall stones are rare before the age of thirty-five, pain is frequent and severe. Prolonged jaundice is indicative of gall stones rather than catarrh of the bile ducts. Intermittent fever, chills and sweats, followed by jaundice, indicate a ball-valve stone in the common duct. Prolonged tenderness over the gall bladder with jaundice usually indicates a stone accompanied by inflammation of the ducts.

Enlarged glands about the common duct or hepatic duct occasionally give rise to a persistent jaundice. In the absence of the signs of gall stones and the absence of a palpable tumor, one may suspect the presence of enlarged glands.

A palpable tumor of the upper abdomen—whatever the character of the tumor may be—when it is accompanied by jaundice, may be taken as causing the jaundice by pressure.

Cancer of the gall bladder and bile ducts is apt to be accompanied by enlargement of the gall bladder. There is persistent pain, loss of weight and strength.

Pneumonia and typhoid fever are occasionally accompanied by jaundice, but here the primary disease is evident.

Abscess of the liver is suggested by the severe character of the disease which has preceded the jaundice, either in the form of an appendicitis or cholangeitis, and differs greatly from the mild symptoms of catarrhal jaundice. Solitary abscess of the liver is indicated by the enlargement of the liver or the history of dysentery.

911 *Sixteenth Street.*

PROSTATIC DISEASE. [Thesis No. 3].*

A Plea for Investigation of the Newer Methods of Diagnosis and Therapy Prior to Criticism. Methods as Given in This and Thesis No. 2.

By H. E. JONES, M. D., Roanoke, Va.

"We plead in pity for the poor prostatics."

In the above quotation, are the final words and plea in Dr. G. Paul La Roque's most excellent article on "The Removal of the Prostate Without Pain and Danger to Life." (*Va. Med. Semi-Mo.*, Feb. 23, 1917).

The inevitable assembly of the infirmities of age will surely overtake us, as well as our patients, should we be so fortunate as to live long enough.

Prostatic disease is all too frequent an infirmity of age for us to contemplate and should we be so unfortunate as to have it to strike us, either in middle life, early old age, middle old age, or in extreme old age, *none of us desires to be operated on for its refief, even if it is painless*, provided there are other therapeutic measures of relief. There *are* other measures of relief if instituted in time, except in extreme cases, such as the fibrous and malignant types.

As to etiological causes, there are three, namely, infection, circulatory degeneration and traumatism, all of which, in early and middle stages, are frequently with or without complication. Occasionally organic or gonorrheal stricture is a complication; nephritis, cystitis, and pyelitis, less frequent, but too often. Prostatic stricture is a constant compliaction.

The essentials of success in the relief of the prostatics *are an early diagnosis, suitable pharmaceutical agents and mechanical measures.* These judiciously selected, and intelligently applied will surely effect, in my belief, a cure, in 95 per cent. of the cases, and symptomatic relief in a majority of those left. When thus relieved, sexual capability is restored; whereas, in surgical relief, by removal of the gland, sexual life, usually to the regret and sorrow of the sufferer, is a thing of the past. As the catheter life of the patient is only from 2 to 5 years, it is almost criminal for the physician or surgeon to allow cases to reach the catheter stage. These sufferers should be relieved by any or all therapeutic measures, at least before catheter life is commenced, or at the earliest time possible after it is entered into.

Now, as to the essentials of relief: an early diagnosis comes first. The early diagnosis is made by the history, present existing symptoms, local and general physical examination of the patient, and laboratory examinations of the urinary secretions. The second essential measure is 5 or 6 drugs, viz., urotropin, diuretin, *chromium sulphate* (*said to be practically a specific*), iodide of potassium, possibly some anodyne (to be selected by physician) when indicated and cathartics. The third (but most important) essential for successful relief is *three mechanical measures*, viz.: *vibration, high tension electricity, and continuous and interrupted low tension electricity.*

In all urinary cases of males that apply to us for relief, along with the general physical and laboratory examination, a local examination of the external genital organs and of internal genito-urinary organs, especially the urethra, seminal vesicles and prostate should be made in every instance. If this is done, we will not miss making an early diagnosis of prostatic disease which will give us the opportunity of commencing early treatment for same, thereby saving the patient much suffering, expense and danger to life. While making a general physical examination, *if you will examine with a radicular pressor the ganglia and nerve roots on either side of the 11th and 12th dorsal, 3rd lumbar and 1st, 2nd and 3rd sacral vertebra, and find one or all of them slightly tender or very sore, you can count on lesion of prostate*, which can be verified by a rectal examination. If kidney, ureter, and bladder are diseased, the ganglia and nerve roots of the 10th, 11th and 12th dorsal, 12th dorsal and 1st lumbar; 11th and 12th dorsal, 1st lumbar and 1st, 2nd and 3rd sacral nerves will be tender and sore from a low grade neuritis caused by constant irritation from the diseased organ or organs to the ganglia and nerve roots which supply them, and when of long standing, even the centers in the cord, which are above the nerve roots and ganglia, are tender and sore, which can be elicited by concussion over the spinous processes. Any one or all of the latter dis-

*Read before the Roanoke Academy of Medicine about March, 1917.

eases can be verified by instrumental and laboratory examination.

Should we be so fortunate as to find only the prostate diseased, our treatment is simplified and direct, and should be carried out as follows: non-nitrogenous diet; prescribe a cathartic for elimination, to be taken as indicated; give urotropin for a week for its antiseptic effect on the urinary tract. If secretion of urine is below 40 ounces for 24 hours, add 5 grains diuretin for its diuretic effect. When these have been taken for about a week, prescribe 10 to 15 grains of iodide of potassium, twice a day for a week, for its absorptive effect on the diseased gland tissue. During the administration of the iodide, *prescribe 5 to 8 grains of chromium sulphate*, to be administered at bed time. According to Kolipinski who established its value, chromium sulphate has a specific effect in reducing the gland.

The urotropin and diuretin, given together, should be alternated weekly with the iodide of potassium and chromium sulphate. By this method the curative effect of each drug can be secured alternately, and the patients are pleased for the drug treatment to be changed once a week.

Simultaneously with the commencement of the drug treatment, the mechanical treatment should be instituted, and not administered more than three times a week. After the first week, the writer only administers it twice a week.

If complicated with middle and anterior urethral stricture, at once relieve it with copper electrode sounds, applying negative pole of galvanic current through stricture (through sounds) while dilating, using, if necessary, half of one per cent solution cocaine as a local anesthetic; *the negative pole is destructive and dilating.*

If the stricture is too dense, which is not usually the case, to be relieved by these measures, cut and dilate with a urethrotome.

After the anterior or pendulous urethra has been relieved of the stricture, the copper urethral prostatic sound is introduced, at the same sitting, *through the prostatic urethra, applying the negative pole of the galvanic current while doing so—to soften and dilate the prostatic urethra.* Then continue the dilatation of the prostatic urethra with different sizes of ordinary urethral or prostatic sounds, until it will admit a screw prostatic dilator, when it should be dilated up to the normal size (say No. 20 American scale or 30 French), which can be done at first sitting. When this is accomplished have the patient to urinate, to wash out blood clots and to remove residual and infected urine. Remove or slit up (half to one inch) redundant prepuce.

If there is too much bleeding, introduce the required size copper electrode through the whole length of the urethra and *administer the positive pole of galvanic current;* this will stop the bleeding. The positive pole contracts tissues and blood vessels by constricting effect of the current, and the styptic effect of copper driven into tissues by cataphoresis. This also renders the whole length of the urethra and bladder practically sterile, as *both the copper and the current are antiseptic.*

Immediately after this, take patient to the high tension electrical room, place on autocondensation couch, and administer 250 to 350 (low meter), milliamperes of high tension electricity (high frequency) for ten minutes—for its renovating and regenerating effect to all the cells of the body. It also lowers the blood pressure if above normal; if not, pressure is not altered unless the electricity is continued for a longer period than ten minutes.

As soon as this is accomplished, set the patient up or turn over on face and apply the vibrator on both sides of the spinus processes, over ganglia and nerve roots of the 12th dorsal, 1st lumbar, and 1st, 2nd and 3rd sacral nerves—*for its toning, and analgesic effect on nerve centers, nerve roots and nerve tract.* When this is completed, introduce the prostatic electrode into rectum, connected with the positive pole (healing pole) of the galvanic current; negative pole is applied just above the pubis, with a six inch felt and zinc electrode. Turn on the continuous current for two minutes, then interrupt it, 120 times a minute, for two minutes, with the rheotome: then stop the rheotome and continue the continuous current for two minutes more. With the prostatic electrode in the rectum, tilted against the prostate, and the negative electrode above the pubis, the current in sufficient quantity (amperes), and sufficient force

(voltage), can be sent through the prostate and bladder in sufficient dosage for the purpose of toning and contracting their tissues and removing inflammation. The two minutes interruption of the current with rheotome is for the purpose of producing automatic, cystic and prostatic massage of the gland tissue and bladder, to remove inflammation and for giving exercise to prostatic and cystic musculature, to increase the muscle strength and tone, which is always below normal in prostatic disease. The diagnosis made, the drugs prescribed, suitable advice given, complication, if any, relieved, and the three mechanical measures (as described above) applied, consumes about an hour of time and completes your first examination and first treatment, which are the most troublesome to the physician and most disagreeable to the patient of any that are to be made. The subsequent 12 to 18 treatments (vibration, high and low tension currents, consecutively given, constitute one treatment), given twice a week, covering a period of six to eight weeks, will not require more than 20 to 25 minutes each and are painless. Once a week, not oftener, the prostatic and urethral sound or dilator should be introduced and the gland (and stricture, if any) dilated. *Invariably after the first treatment, the patient feels better, passes urine more easily, (with scarcely any or no residual) and will report on first visit that he felt slight soreness for two days. He will also report that he is feeling much better in every way and that he has had more rest in last few nights than in any* 10 *or* 12 *nights for a considerable period of time in the past.* On 3rd or 4th day, commence your second treatment which is as follows: 10 minutes on auto-condensation couch: vibrate four minutes, then positive pole of galvanic current to prostate, continuous 2 minutes, interrupted 2 minutes, continuous again for 2 minutes. Total time consumed in treatment, 20 minutes. If cancer of the prostate is suspected, *inject* 4 *grams of iodide of potassium and two grams of bicarbonate of soda to* 100 *c. c. of water into rectum. If temperature rises after this is injected, and is absorbed, it is diagnostic of cancer.* If cancer is localized in prostate, enucleate at once.

Of late, I notice that the use of light—especially the X-ray, which is a form of light—is being recommended and used with some success in prostatic disease. This is possibly due to its known germicidal effect and degenerating or destructive effect on low grade tissue. The X-ray form of light is a negative force—is energy with negative polarity. It is known that all energy or force with a negative polarity is destructive, disrupting and disintegrating to germ life and to low grade tissue and, if applied a sufficient time, has the same effect on highly organized and developed tissue. Should prostatectomy become necessary, it ought to be done without delay, as it is not a difficult or dangerous operation and requires but a short time to perform it. In the larger centers, I have seen this gland removed in less than five minutes; hence there is little danger from the general anesthetic—in my opinion, not as much danger, on account of the short time it takes, as there is from local anesthetic, though the danger of the latter with cocaine preparations has been reduced to the minimum since it was discovered that *nitroglycerine* is a *physiological antidote to the dangerous and depressing effect of cocaine.* Any physician who is accustomed to doing surgery can perform the operation.

Should general anesthesia be employed when the patient is suffering with pulmonary disease, ether should not be employed;* in this instance, nitrous oxide gas and oxygen or chloroform should be employed. If suffering with nephritis, nitrous oxide gas and oxygen is the combination to be used. Otherwise, ether should be the one employed.

In regard to adverse criticism as to the efficacy of the newer methods of diagnosis and treating infectious, local, organic and constitutional disease, and the efficacy of mechanical measures in conjunction with and as synergists to pharmaceutical and surgical therapeutics, the writer will state that he has studied all available literature, experimented and investigated, made observations of his own and the work of other men, and applied

*Dr. W. E. Savage, Cincinnati, Ohio, **Therapeutic Digest,** April, 1917, Vol. 12, No. 2, in his article on "Ether in the Treatment of Tuberculosis," says it is curative in all forms of tuberculosis—pulmonary, peritoneal, meningeal, osseous, integumentary. He says individuals with respiratory disease are not unfit for ether anesthesia, but it is all the more reason they should have it, and reports many cases to justify his claim.

them practically. In so doing, he has been in position to separate the chaff from the wheat. He has given true data as he saw it, in the writing of which, he did not take his stand on erroneous ground or on tangled issues, which are logically distinct. The materials on which his inductions rested were revised, new data were brought forward, and that which ought not to be accepted was discarded. Fallacies were discarded and logical and true observations retained—all that every clear, informed and honest mind would accept and approve.

In dealing with, studying and applying the old and new diagnostic methods and old and new therapeutic methods, facts and deductions and opinions formed were reached by looking at them from different points of view, and only proven and accepted facts were considered, applying them practically and observing the results. The objective point was made, in every instance, to get at the truth and to bring out all the real, valuable facts. The man who confines his reading to the Holy Bible, the *Roanoke Times*, an old edition of Osler's Practice, and old edition of Obstetrics and Materia Medica and Surgery, to *Journal of the American Medical Association*, and ignores all basic, correlated and associated scientific text and journalistic literature and the most recent medical text and journalistic literature on gross physical and electron methods of diagnosis and therapy and on the newer pharmacological and surgical therapy, is not in a position to understand, to value or to accept them.

Adverse criticism and disbelief is his tendency, which is always the refuge of the uninformed.

What the writer has humbly and inefficiently advocated in his writings and that of others, and his observations, was not for his individual benefit or success exclusively, but for the benefit of medical practitioners and their patients—in other words, for humanity.

As a result of lack of information, disbelief and criticism before investigation, "many will sit in the corner seat and hurl the cynic's ban; they are unfamiliar with the spirit: I don't know—I will investigate."

It has been said that the newer electron diagnostic measures and therapy and gross physical measures are not taught generally in the medical schools of the country and hence ought not to be fully recognized until they are. The reason for this is that the majority of the teachers (professors, if you please) come under the head of the uninformed as described above. They were not taught the newer methods 10, 20, or 30 years ago. Since graduating, they have not taken the time or trouble to keep up with progressive medicine, except in a restricted way, i. e., only on the subjects taught them while attending medical schools, viz., general medicine, surgical and pharmaceutical therapeutics. A number of years after the discoveries of Lister, Pasteur and Morton were made they were not taught in the schools and generally and practically applied, because of credulity, scepticism and disbelief, which retarded the progress of the medical world for a decade or more. "The credulous generally believe too much and the sceptics too little." The greatest factor in the promotion of progress is individual initiative in research, practical observation—both in the old and in the new. By many there is "assumed a right to discredit new knowledge without investigation, for no other reason than that it is in disaccordance with pre-existing knowledge, and has, therefore, no official right to existence," according to their view.

When the newer diagnostic means of diagnosis and therapy, described in Theses No. 1 and No. 2, as well as the old, are acquired and practically applied by the authorities and professors, so as to be convinced of their value and to lead them off from their so-called authoritative conservatism, they may be taught by the professors of all the schools: then, in a short time, general medicine and all the specialties will advance by leaps and bounds, never realized before. Then, and then only, will much of the medical knowledge be founded no longer on and "limited to the realms of speculation, but will be based on scientific objectivity."

The day has passed for a physician to successfully practice medicine (or any specialty thereof), and do justice to his patients with only his ears, eyes, hands and fingers, and a clinical thermometer as the instruments for making a diagnosis, and a hypodermic syr-

inge, pencil and pad, a pair of artery forceps, grooved director, scissors and scalpel for administering his medicinal and surgical therapeutics. If the general physician and the specialist are well informed in up-to-date medicine, and are well equipped with the old and the new diagnostic apparatus and with the old and the new therapeutic apparatus, with a full knowledge of their uses, they will be one hundred fold better diagnosticians and better therapeutists. Then, and then only, will there be less surgery, both general and special. More symptomatic and permanent cures will be made, mortality lessened, a great annual loss of life prevented, and an enormous annual expense to the public will be curtailed at least one-half.

The necessary new literature and equipment can be found in the text given by the writer in the bibliography or in Thesis No. 2. The necessary literature and diagnostic and therapeutic chart can be purchased at a cost of about $40.00. The most important diagnostic (for gross and medium) therapeutic apparatus can be purchased for about $350.00 to $500.00. These will keep you employed and busy for one or two years, depending upon your energy and ability. The refined diagnostic apparatus will cost between $300.00 and $500.00. Most of this apparatus can also be used for therapeutic purposes as well. Learning the use of these will keep you busy, in order to master them, from 2 to 5 years.

Possibly there are a few physicians who, for lack of industry, perseverance, enthusiasm or ability, will never be able to acquire the knowledge, or be able to apply it, if acquired.

The writing of this thesis and two former ones were not intended for electro-therapeutists, radiographers and men who are informed on and apply physical therapeutic methods, but exclusively for the general practitioner and specialist, who confine their therapeutics to drugs and surgery. The diagnostic features are intended for all who are not acquainted with them.

Of all the doctors who must of necessity possess absolutely the broadest diagnostic and therapeutic knowledge, it is the general physician, as he is generally the first physician the patient sees and the most serious diseases are put in his care; the lesser disabilities, which he does not care to treat, are referred to the specialists, viz., dentist; nose, throat, eye and ear specialist; gynecologist; genito-urinary; gastro-intestinal, rectal, and other specialists. Yet all ought to be informed on the newer methods for humanity's welfare.

If a physician or specialist can acquire a working knowledge of drugs and surgery, he can, as well, acquire a knowledge of gross and refined mechanical therapeutics and diagnosis. By so doing, he will be enabled to render scientific service for his own and his patients' benefit, and increase his office work ten-fold.

The plea for the prostatic as well as for patients suffering with any organic, constitutional, nervous, functional and germ disease, is to give them the benefit of medicinal and mechanical therapeutics before resorting to the more radical therapeutic procedures.

In my opinion, there is no all-round, complete physician, surgeon, or specialist of the first water, unless he is fully informed on gross and subtile physics, synthetic and analytic chemistry, *gross and subtile diagnostic and therapeutic measures*, as well as with the usual diagnostic and therapeutic measures he is taught while studying for his M. D. degree.

Bibliography.

A. Abrams, M. D.—Diagnostic Therapeutics.
A. Abrams, M. D.—Reflexotherapy.
A. Abrams, M. D.—New Concepts in Diagnosis and Treatment.
Tousey, M. D.—Medical Electricity and Roentgen Rays.
Marv C. Rice, M. D.—Electricity in Gynecology.
M. F. Pilgrim, M. D.—Vibratory Stimulation.
A. A. Stevens, M. D.—Materia Medica and Therapeutics.
Green and Brooks—Diseases of the Genito-Urinary Organs and Kidneys.
H. E. Jones, M. D.—Thesis No. 1 and No. 2—*Va. Med. Semi-Mo.*, July 27 and Sept 7, 1917.

The writer will prepare Thesis No. 4 in short time on the combined medicinal and mechanical treatment of diseases of the female generative organs. In subsequent articles, he will take up, serially, the organic, constitutional, gastro-intestinal, nervous and functional diseases.

HOPE FOR THE INSANE.

By WM. HELD, M. D., Chicago, Ill.

It is a foregone conclusion that the entrance of a psychopathic patient into an insane asylum marks, with few exceptions, his start on the last leg of his earthly journey—that there he will complete his career.

So fastened has become this conviction in the minds of those who are concerned with the care of the insane that, sad to say, the asylum routine is not to treat the patient with any expectation of improvement or recovery, but to bend every energy toward supplying a place of safe retreat, amidst a mad citizenry, removed from the maddening crowd of the outside world.

Institutions where the inmates are really treated on the lines of progressive psychiatry and physiological therapy are exceedingly few, and then only to be found among the high-priced private sanitariums.

The activity of the ancient medicine men, who displayed great energy in the torturous treatment of the mental patient, has been replaced by our modern apathy.

The diagnosis of insanity as a rule condemns the unfotunate patient automatically to a lifelong confinement. Should this attitude remain unchanged? Is this commitment to an asylum and confinement there really the patient's last step, his last hope, or is there, for some of these patients at least, in the light of more recent developments, a light dawning, the light of restored mentality, an unclouding, a re-awakening? Cannot many of these patients be benefited? Can the insane ever emerge from mental darkness into light? Is there hope for the insane?

These questions press themselves upon the minds of those who have witnessed the unusual results obtained with mental patients subjected to a new form of treatment. Many excellent works deal minutely with internal secretion. Acute and chronic intoxications and auto-intoxication, as etiological factors of insanity, have been extensively dwelt upon.

The telling effect of glandular material upon the system, its ability to stimulate retarded functions, has been recognized. For instance, a subcutaneous injection of milk, taken from the breast of a woman whose lacteal secretions have almost ceased, resulted in the prompt re-establishment of the mammary gland function with an abundant supply of milk.

We also recognize in many other phenomena the specific function of glands. We might mention the relation between testicles and the growth of beard in the male, or the growth of beard in the female where rudimentary testicular appendages are present (hermaphrodite-gynaecomstax).

The relation between mentality and glands has been known to be a fact, although it is not clearly understood.

The therapeutic measure of employing glandular products of animals has meritorious qualifications, but lacks the one great desideratum, absolute specificity,—that is, the faculty to effect specifically the offending organ and thereby stimulate the same into renewed healthy activity. Glandular therapy has failed to influence the particular organ aimed at.

The idea of glandular therapy is that the functioning elements of the glands, the hormones, will furnish the system with the material which, due to interfered gland function, is not supplied in the proper quantity or quality. The ideal result of glandular extract administration would be to have the hormones contained in therapeutic doses stimulate the diseased gland itself into renewed action.

This might be brought about by the characteristic affinity possessed by glands for elements of their own kind. For example, the thyroid is stimulated by thyroid hormones, the mammary glands by mammary, the ovaries by ovarian or lutein, etc., all aiming to stimulate the particular organ or gland whose functioning is impaired.

Dr. Sauer, of the Hasenheide Clinic in Berlin, I believe, was the first to call attention to intestinal hormones, the element which may be extracted and used to stimulate intestinal peristalsis.

Could we obtain a material which contains the particular hormones of each individual gland, the functioning element of the glands of the particular patient, and then be able to apply it directly to the gland whose function is interferred with, we would indeed be weaponed with a specific therapeutic agent!

The physiological function of every gland, in its minutest detail, is specific of such gland. Each gland has a function which is not shared in exactly the same manner by any other gland. This is true not only of the glands of internal secretion, but also of all others. One kidney, for example, may take up the labor of its missing mate, but no other gland in the body can replace kidney function.

The therapeutic employment of gland prod-

ucts in certain disturbances of health seems sometimes to be followed by favorable reactions and again in other individuals, afflicted to all appearances in the same manner, the same gland extracts fail entirely. Any successful results from this form of treatment are due to the efficiency of the extracts to supply the economy with the elements which the diseased gland fails to furnish. Whatever protective mechanism is set into motion by the administration of glandular material, be it by mouth, transplantation, rectal, or other means, the protective feature is due to supplying the system with elements which pathological glands fail to furnish, or to the stimulation of the offending gland into renewed activity. The latter is the most favorable result possible. The specific affinity of the glandular substance present in the system for the administered material explains the renewed function, explains the result obtained.

The hormones of the administered ovarian extract furnish to the patient's system the material which under normal conditions a healthy ovary would supply. But the therapeutically ingested ovarian material does not stimulate the diseased ovary into renewed function. Pituitary extract and all other glandular preparations are sometimes able to replenish the system temporarily with the wanting element, but they do not restore the activities of the particular gland to the extent of ultimately making further administration of gland extract unnecessary.

These extracts are greatly changed chemically during the process of digestion and absorption, and when they reach the other side of the intestinal wall, they are vastly different, and for that reason ineffective. They cannot be compared to the substance directly manufactured and discharged into the patient's blood stream from the glands by way of the regular channels.

Seriological work, conducted with many epilepties, demonstrated that the first noticeable improvement was in the patient's mental condition. Many physicians who have used anti-epileptic serum have independently made and reported this observation. The fact that autogenous serums and vaccines often act after dissimilar preparations have failed, is a hint that the same state of affairs may obtain in glandular therapy.

Once the possibility of successful specific autogenous glandular therapy became apparent by these and other similar considerations, it became merely a matter of setting ingenuity against all apparent obstacles. And this brings us to the subject of "semi-autogenous gland therapy," a term which I have coined with the idea of characterizing the underlying facts, viz., partly autogenous gland treatment.

By the accepted rules of specific autotherapy, what better, what more ideal method could be desired than one which furnishes us with a therapeutic agent, laden, energized steeped and vibrating with the hormones of the glands which we intend to stimulate; and what other method would answer the purpose so well as to obtain the patient's serum, which has traversed every gland of his system?

A given patient's blood contains physiologically all the elements which are active in the particular patient's metabolism, be such healthy or pathological. The ordinary methods of inoculation with disease germs, and thereby transmitting disease, verify this contention as far as germ disease is concerned. But we are not concerned here with micro-organisms, but with the infinitely more delicate products emanating from the most perfect laboratories of Nature, viz., the glands, both those of internal secretion and others.

The many highly interesting deductions gained from experimental physiology have enabled us to observe many far-reaching effects. Gland extirpation, transplantation, therapeutic administration of glandular extracts, as well as the phenomena observed in diseases depending upon known interference of gland function,—all these have long ago emphasized the intimate relation between glandular activity and metabolism, and have demonstrated the direct connection between disturbed gland functioning and pathological metabolism.

These findings have been recorded years ago, verified frequently by many investigators, and recently greatly amplified. Records of these labors are contained in many works by the ablest physiologists, pathologists and bacteriologists of every country. No student can escape the conviction that by virtue of the continued

normal function of the glandular system controlled by the sympathetic nervous system, normal metabolism, that is, health and life, is maintained. By glandular activity the circulating blood is supplied with the required material, extracts, hormones, secretions, which, being carried to every part of the body, are absorbed there, and its saturating fluids endow the various organs with the functions with which these organs are charged. These functions are automatic, being dependent upon the sympathetic nervous system.

So we recognize that ferments of glandular origin carry on absorption, digestion, regulate and repair the waste, secretion, and excretion, inhibit cell growth,—in short, maintain normal body functioning. We also recognize that inharmonious gland functioning causes atrophy or hypertrophy, depending upon the gland and the degree of involvement; we recognize inhibitory functions preventing unsymmetrical growth of fingers or extremities; we recognize under-development or overgrowth controlled by glands, and, indeed, we shall awaken some day to the realization that cancer has its cause in glandular diseases, preventing inhibition of cell growth, causing the cells to "run away," multiply, and grow, without the restraining influence of one's inhibitory gland ferments.

By gland ferments poured into the blood stream we live. The gland which most often receives recognition as an active agent, as a health-disturbing element, is the tonsil. The backward child with diseased tonsils and adenoids is usually a mouth-breather. Let these tonsils be removed, and we find often that the mental development, previously retarded, now becomes normal. It does not alter the underlying principle that there are those who break a lance against tonsil removal, nor that there are many who favor complete tonsillectomy whenever these organs are afflicted. The point for us is that the physician has recognized the tonsil's function as that of a beneficial scavenger, guarding the entrances to the fauces when healthy, and detrimental to the system when diseased.

We have stopped short at such recognition. Instead of realizing the meaning which attaches to gland diseases we have labelled these patients "mouth-breathers" and said that they were suffering from oxygen starvation. Both are facts, but the mental retardation is primarily the result of gland disease. When blood serum containing the hormones of diseased glands are injected into animals, the healthy glandular system of such animal is attacked, with the result that the healthy gland at once is stimulated into projecting its protective faculties, what we in other spheres would call "anti-bodies," but which here are Abderhalden reactions. The healthy gland defends itself automatically against the offending pathological hormones. It re-adjusts itself to the newly-created condition and, after repeated stimulations, acquires a state in which it easily overcomes the once effective invader.

Temporarily the glandular system suffers stress, but being richer in healthy hormones than the attacking minute pathological substance, it absorbs and renders harmless the latter. It soon learns to defend itself against that particular kind of hormones, and this protective faculty is enhanced by repeated attacks.

If, then, these trained hormones of such glands be directed against the diseased glands in the system of the afflicted patient the same will attack and stimulate it to normal action. The question, "Why not use normal glandular extracts against the pathological system" is answered by the fact that normal extracts are not specifically trained to take care of abnormal hormones, and therefore remain either neutralized, or are defeated by the abnormal gland secretion. Clinical experience also is in favor of the above described autogenous method.

There is in course of preparation a report of clinical cases demonstrating the merits of the above method. These reports, thus far, cover cases of dementia, melancholia, delusional insanity, feeblemindedness and epileptic dementia, and the results obtained were so encouraging as to urge a wider application of the "semi-autogenous" glandular treatment.

The auxiliary measures employed in the treatment of these cases, aside from the mentioned glandular, consisted in removal of reflex irritations, high sigmoidoscopical stimulation, psycho-analysis and injection of nuclein.

5511 *Higgins Avenue.*

HEROIC USE OF NITROGLYCERIN AND VERATRUM VIRIDE IN PNEUMONIA.

By A. B. GRUBB, M. D., Cripple Creek, Va.

For a long time I used veratrum viride in heroic doses about the first five to seven days of pneumonia, with very happy results, but since then have combined nitroglycerin in large doses and find the two get a great deal better results than veratrum alone.

While nearly all my patients have been strong non-alcoholics and have been about the right age to stand pneumonia well, yet by comparing my last fifty cases treated, to those during my earlier practise, by standard text-book ideas, and also by comparing my cases treated within a few hours after the chill, to those treated late, I have been led to have a full faith in the above method and will use it until something better comes along. In all, counting the broncho-pneumonias of children and the lobar pneumonias of adults, there have been over fifty cases treated, with no mortality, and the duration of the disease apparently has been shortened in broncho-pneumonia. While it has not been shortened in lobar pneumonia, yet the toxemia has been lessened, the heart's force conserved, temperature lowered, and the crisis has not been attended by the severe prostration, impending danger, etc., so characteristic of pneumonia.

In my early practise in children, I used to have them hanging for days and days, with broncho-pneumonia terminating by lysis; besides, there was a very discouraging mortality in those about twelve months of age. Happily, however, either by luck or science, there has been no mortality or severe morbidity since the above plans have been carried out.

The last case treated was a typical case of lobar pneumonia, in an adult, and will be reported from memory:

Young man, aged 22, had been a heavy drinker at times, until last November, when he boarded the water wagon. Had a hard chill and was seen a few hours afterwards. Temperature was 104, pulse over 100, and prostration grave. He was put on 1-40 gr. nitroglycerin every hour during the day, and 1-25 gr. every two hours at night, so his sleep would not be disturbed so often. The nitroglycerin was not changed very much, until the seventh day, when it was discontinued. He was put on the fluid extract of veratrum viride, six drops every two hours during the first twenty-four hours; four drops every two hours during the second twenty-four hours, and three drops every two hours for the remaining period until the seventh day, when it was discontinued.

The patient went over the crisis without much prostration. Pulse pressure was good, the rate not much over 80, toxemia was not marked and the family was encouraged as to a favorable outcome. Temperature was never very high after the first two days—ranging from 100 to 101½. He was given laxatives freely and stimulant expectorants.

Another patient, aged 22, was in Roanoke on Monday and had a chill, but thought he had a cold and did not call a doctor. On Friday he came home with his lung consolidated over the lower lobe and temperature 104. It was too late for treatment to do any good and he died on the tenth day.

The natural resistance of the patient that died should have been better than the one that lived, as he was almost a teetotaler, and I believe if he had been treated early he would have passed over the crisis without any graver symptom than the other patient.

I realize that a great deal of therapeutic nihilism exists in our profession concerning pneumonia, and many have almost placed their sole reliance on food, fresh air and stimulation during crisis. I believe, however, that by lowering blood pressure in the pulmonary artery and keeping it lowered, we keep the heart from pounding against the inflamed lung, prevent consolidation and filling of the alveolar spaces with blood and exudate and the pneumococcus; this in turn relieves toxemia by allowing "lung drainage" along the open alveolars; also, by placing less mechanical impediment against the right heart, we should, in theory, save the life of many a patient. In practice I have found it as good as in theory.

Summary:—In over fifty cases treated, there was no mortality; in one untreated case, there was a mortality of 100 per cent.

Be Patriotic and Buy a Liberty Bond.

The *second* Liberty Bond, offered October 1, 1917, consists of three billion or more 4 per cent United States Government bonds maturing in 25 years, but callable by the Government on any interest date after the tenth year. The Liberty Bond is a gilt-edge investment in addition to being a patriotic duty.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

The following are abstracts of the principal papers read before the above named Association, at its meeting at Atlantic City, N. J., May 28-30, 1917:

President's Address—Laryngological Aspects of the European War.

By JOSEPH L. GOODALE, M. D., Boston, Mass.

After expressing his appreciation of the honor conferred on him, Dr. Goodale said:

This year we meet at a time when the thoughts of all are centered upon our entrance into the great war. Aside from the fact that lesions of the upper air passages are especially frequent in the present war, both from the character of the missiles and from the use of asphyxiating gases, observers have noted a great increase in inflammations of the nose and throat spread by contagion among the numerous masses of men in modern trenches.

The contributory causes are the prolonged stay in the trenches, the dampness and want of ventilation in the dugouts, together with the defective light, in which the virulence of micro-organisms is increased, or at least the bactericidal influence of sunlight and fresh air is absent. These conditions appear to favor not only the spread of acute catarrhal infections, but also of cerebrospinal meningitis. The importance of stamping out foci of this latter disease has suggested the desirability of examining recruits with reference to the possibility of their being carriers through lodgment of the meningococcus on the mucous membranes of their nasopharynx. Disinfection of the mucous membranes of carriers has been successfully accomplished by placing the individual in a chamber containing a certain percentage of chloramine vapor for a few minutes. The procedure is said to cause but slight irritation to the mucous membranes, but seems to have almost a selective action on the micro-organisms in question.

Some sections of the line appear to be especially unhygienic, and numerous cases occur of infection which in ordinary life are rare, such as perichondritis of the larynx and primary laryngeal tuberculosis. Latent systemic disease is prone to be lighted up—such as tuberculosis and syphilis. Bleeding from the nose, trachea and bronchi, at times of an alarming extent, often occur. In albuminuria, fatigue and cold are apt to bring on glomerulonephritis, a not infrequent symptom of which is edema of the glottis. The unfavorable influences are increased by the difficulty of changing clothing, transportation in open vehicles, and by rapid changes of temperature.

Direct laryngoscopy has proved its value in locating traumatic lesions.

Secondly, may we not then profit by an examination of the writings of those who are now endeavoring to indicate some of the errors of judgment and conduct in matters of education and research?

In illustration of past deficiencies in this respect may be cited the fact that for many months the English authorities, while rigorously excluding from Germany such articles as saltpeter and cotton, nevertheless were permitting the exportation of lard from this country in large quantities, in ignorance that it is the source of glycerin, and consequently a prime requisite in the manufacture of explosives.

We must, therefore, recognize that as nations court destruction for want of science, so our profession in America runs the risk of being outstripped by that of other countries unless it rests upon an equally secure foundation of scientific training with all that this implies.

Another matter which I wish to present for your consideration is the slackening up of scientific work in allied countries in the early part of the war.

We should differentiate between those educators and investigators, on the one hand, whose position permits an advantageous deflection of their activities into channels capable of rendering a direct national service, and on the other, those individuals who, by reason of their age, lack of physical qualifications, or from the nature of their work, may regretfully feel that they must stand aside without a definite service to offer.

Such men are capable of making a very real contribution to the nation. It is for them to uphold the best traditions of their past, to maintain without faltering their customary work of teaching and investigating, and to present to their comrades whose good fortune it may have been to participate more directly

in military service, on the return of peace, a definite record of having kept undimmed each in his own chosen field the light of education and of research.

Further Observations Upon the Use of Radium in Diseases of the Upper Air Passages.

By D. BRYSON DELAVAN, M. D., New York, N. Y.

From a report by Dr. Ewing and Dr. Janeway, of the Memorial Hospital in New York City, an institution devoted to the study of cancer, the writer presents a summary of one hundred and eighty-four cases of cancer of the upper air passages out of a total of four hundred and twenty-two cases.

The successful cases given in the report of cancer of the mucous membranes are illustrative of the best service that radium in the light of our present knowledge can perform.

In the majority of them the lesion was small and probably operable, but for some reason operation was deemed inadvisable or was refused. While all show complete clinical retrogression, this—from the point of view of those who only consider as cured those patients who are well after three to five years—may not be an absolute cure. The proof must be left to time.

In advanced cancer, any temporary benefit from radium is usually overshadowed by the later progressive extension of the disease. No patient of this class should be given treatment which will be followed by more than transitory discomfort.

To summarize a few after-points made in the report which seem to carry special weight:

Knowledge of the use of radium is making steady progress.

The work of but one year in a single institution shows a marked advance.

As with surgery as applied to carcinoma, so with radium, for the best results are gained by the prompt treatment of early cases.

The question at once arises as to how long it will be before the use of radium will be proved worthy to supplant surgery.

DISCUSSION.

Dr. Charles W. Richardson, Washington, D. C.: I have had very unfortunate results after the use of radium in five cases which I recall to mind—four of cancer of the tonsil, and one of cancer of the cheek. They have all died. The cancer of the cheek was discovered very early.

Now, these and the other two cases, which were later, all died in the usual course of time.

There is, however, one thing to be said in favor of radium in the treatment of these cases, and that is the wonderful relief it gives of all of the disagreeable symptoms. As they went along their course these cases did not look like extensive malignant disease of the tonsils, as we usually see them. There was very little odor and the lives of the patients were fairly comfortable and free from pain. One died from hemorrhage, and the other three from toxemia, and this toxemia came on one week and the next week they passed away. It was all very quick, and they were apparently in good health except for the local condition. Until the time of toxemia they were interesting in that way, that they were all very much more comfortable, but they all four were fatal, and fatal in about the time they would have been without any treatment at all.

Dr. Robert Clyde Lynch, New Orleans: I have four cases in my experience now, one of which I believe is definitely well. It is a case that has apparently been cured—at least the patient has had no recurrence for eighteen months. He received no benefit at all from the action of the radium until the radium was put in the laryngeal cavity through a tracheotomy tube. Seventy-five milligrams of radium and screened over with a milligram of pure gum rubber was left in situ for eight hours, tied into the larynx by means of a catheter, and put in through a tracheotomy tube passed through the mouth, the radium slung between two strings, the lower string tied to the tracheotomy tube and the upper string to the teeth. In that way the radium was brought into actual contact with the diseased tissue. This was one of the cases that had a recurrence after dissection by suspension, and that recurrence has entirely subsided and the voice returned, and he is apparently well—that is, he has been well for eighteen months at least.

In another case operated upon with a third recurrence it was thought to be perfectly inoperable, and the application of radium to this area caused perfect and complete subsidence of every evidence of the recurrence. It is now six months since this application, and apparently there is not the slightest indication of

any recurrence of this metastasis to the second side. In this instance again we were able to supply the radium actually to the site involved, and I wonder whether inability to secure any results in the laryngeal areas is not due to the fact that the cartilage must act as an interceptor to some of the rays, or influence the action of the radium within the laryngeal box.

Dr. E. Fletcher Ingals, Chicago: A patient came to me from a distant state with a growth in the pharynx running perpendicularly. It was about one and a half centimeters in its various diameters and about three or four centimeters long; that is, it extended from the upper pharynx down to the arytenoid cartilages. I could not tell how much farther. The patient came with a history of not having been able to swallow for some time, and was much emaciated and in an extreme condition. The effect of radium in this case was something marvelous; the growth simply melted away. At the end of about eight days the tumor had all disappeared, but there was a large ulcerated surface that represented the base of the growth; and the most remarkable thing was that the ulcerated surface completely healed so that within a short time one could not even see the scar. When this growth had disappeared I found that the patient still could not swallow, and then I was able to determine that she had cancer of the esophagus lower down. I passed a catheter down to the obstructed point, measuring the distance, and then placed the radium in the catheter and measuring the distance passed it down into the stricture. The result of the first application was to open up the stricture very decidedly, and a later application opened it up so that the patient could swallow very well. However, in one of the earlier applications the throat was burned so that it had the appearance as though it had been burned with boiling water or a hot iron. It became very sore and there was considerable sloughing. The patient had a great deal of discomfort for ten or twelve days; however, the burn finally healed.

Dr. J. Payson Clark, Boston: I want to add my testimony to what Dr. Richardson said in regard to the value of radium treatment in relieving the symptoms, especially the symptoms of pain. I was very much impressed with the relief which was obtained in swallowing by patients who had before suffered a great deal.

Dr. Lewis A. Coffin, New York City: I have had a little experience in the last year with radium. I had become thoroughly discouraged in its use and the effects from it. However, we are glad to get anything that adds a ray of hope to forlorn cases.

In one of my cases all the symptoms were very much relieved. The woman could not swallow at all when she came to me, and shortly afterward she was eating fairly and greatly relieved. But the glands softened up somewhat, and we thought it well to open those glands and let out the broken down tissue and put the radium in those glands and left it there all night. The woman, however, began to lose ground and she soon died.

Another patient had a growth in the epiglottis, and a pathologic examination showed it to be malignant. In that particular case it was just like adding manure to soil; the growth was very much stimulated and it grew more rapidly than if we had not used radium.

Dr. Burt R. Shurly, Detroit: I am enthusiastic enough in the use of radium to feel that it is our duty to at least use this method of treatment in all cases of malignancy where we so thoroughly understand that surgical methods are not sufficient to accomplish results.

I operated on one case which involved the soft palate, the upper jaw and the antrum from time to time—three operations in all—and after each operation there has been a very slow recurrence. During the past three years we have used radium at intervals of from three to six months, and the radium has been passed up into the antrum after the antrum operation and held there by the use of soft pliable copper wire which will bend in any direction.

Another case that I have had has now been going on for about three years. By a series of applications of radium this case has undoubtedly been prolonged and been benefited, and what looked to be a very speedy fatal issue has turned out to be a slow process that has now continued for three years.

I do believe that radium has a very decided field of usefulness, but there is a great deal in the scientific application of it, and in the dosage and method by which it is applied, and I feel that it is a field within itself, and we should have an expert who will help us in that branch of the work and upon whom we can call at any time.

Dr. Emil Mayer, New York City: I would

like to have the reader of the paper in closing give us some statement as to what class of cases have done best. It is very possible that we may innocently do some harm to the patient in our attempts at making a diagnosis. Ought we not, therefore, learn of the experience of those who have followed these cases and found that perhaps it may be that those cases have done best where the diagnosis has been made clinically, and no previous attempt made to remove a part of the growth for microscopic examination to prove the diagnosis? Is it not possible that that stimulates the recurrence of the disease? If we can have that made clear, it does seem that we may be able here to formulate some positive distinct rule as to the method we may adopt with safety.

Dr. Harmon Smith, New York City: I believe the good results that are obtained from the application of radium lies in the fact that practically all tumor growths vary in their virulency, and that those cases which are benefited by radium are less virulent than those cases which go on in their natural process of malignancy to a fatal termination.

I am associated with the same institution as Dr. Delavan, and I have sent a number of inoperable cases there—patients upon whom I had previously done a tracheotomy. This is an institution where every facility is available for properly applying radium in advanced cases, and each case went progressively on to death. In addition to these cases, I have sent two cases of retrolaryngeal fibroma, and one went on to death. In the other case there was such burning and excoriation of the mouth that we had to feed the man by rectum for a week, and instead of retarding the growth, it became accelerated and involved the cheek. This was an angiofibroma.

Dr. Norval H. Pierce, Chicago: Based upon his experience, the speaker believes that while a growth may show the characteristics of carcinoma under the microscope, it may vary greatly in malignancy.

At the present time there must be an enormous number of these cases, and I cannot see that we have arrived at any particularly well defined opinion regarding the beneficial effects of radium, even at the present time. I can only state that my experience with radium has been in a broad sense disappointing.

Within the past two years I have had three cases of carcinoma of the superior maxilla involving the antrum, and without exception they have gone from bad to worse, although every means of applying radium has been followed, even to perforating the antral wall and putting a capsule of radium immediately into the growth. True, the pain has been diminished and the odor has decreased, but the disease has swept on as though nothing had been done.

I believe that if we depend upon radium for a cure in the early stages of laryngeal carcinoma, we will have about as much effect beneficially or otherwise, in the large majority of cases, as we would have if we depended upon faith. We only waste time.

I have had a case recently in which we split the larynx and applied the radium without cutting away the growth, a case of leucoplakia laryngis, where I had observed the patient for four years. This leucoplakia was situated on both vocal cords. The leucoplakia remained unchanged for four years. Suddenly from one of these placques on the right vocal cord, the posterior third, a swelling began—a fusiform swelling covered by mucous membrane—and a well marked cauliflower-like carcinoma developed. The larynx became very much inflamed, and the last I heard of him was that there was a probable recurrence of the growth.

The only possible chance for cases of carcinoma of the larynx is thorough removal by external means at a very early date, no matter how early. Whether we apply radium or not is immaterial; otherwise in extensive carcinoma the only means of safety is a thorough operation, and by that I mean laryngectomy.

Dr. James E. Logan, Kansas City: I believe if the suspension method is used and a local application of the galvanic cautery is made directly to the growth, comprehending or taking in all of the growth so far as is feasible, that we will have accomplished practically all that we could accomplish, if not more, than in an application of radium.

If we are to judge from the literature pertaining to the subject, there appears to be very little if anything in the use of radium for such cases.

Dr. Joseph Beck, Chicago: It is about fourteen years since I started the employment of what I thought was radium in diseases of the upper respiratory tract, and only about five or six years ago did I find out (and then re-

ported with negative results), that practically no radium was contained in the capsule that I was employing. So far as I am able to learn from the literature on the subject, too little radium was employed, and then when an amount, say one hundred and fifty to two hundred milligrams, was left in situ for a period, it burned the structures beyond repair, so that the remedy was worse than the disease. My results are absolutely negative as to cures of deep seated growths; I will not even say of far advanced cases, but of those which I would ordinarily class as operable. When radium was employed in such cases the ultimate result was either laryngectomy in time to save the patient, or a fatality.

If Dr. Mayer would have us treat cases without touching the growth, it does not seem to me it would add anything. We will not know what we are treating. This does not appeal to me. If we do not have microscopic examinations of the growths we are treating, it seems to me the subject would not advance very far.

Dr. D. Bryson Delavan, New York City (closing the discussion): The work which is being done at the Memorial Hospital in New York is very far in advance of anything that I know of that has been done anywhere else, and for that reason I have taken the liberty of presenting this resume of that work.

In this report I mentioned, the hospital gives you the results of its work along this line. It is the best they have been able to do in three years' time with a very considerable number of cases. When more years have passed they will have thousands of cases, but their attitude in treating these patients is purely experimental—time will give more definite results, or at least more conclusive results, whether better or worse.

Of all the cases treated, there are a total of twenty-two, which are believed to have fairly retrogressed. That means twelve per cent. of the one hundred and eighty-four cases. There are also seventy-nine cases which have improved, which is a total of about forty-three per cent. There are also seventy-nine cases unimproved. This makes a total of fifty-five per cent. supposed to be improved, as against forty-three per cent. unimproved. In cancer of the esophagus, stomach, etc., the statistics are just about the same.

The method must be adapted to the case, and the ingenuity of the one managing the case must play an important part in the selection of the means of application.

The device of Dr. Robert Abbe is simple, ingenious, and very effective. It is intended for the application of radium to the more remote recesses of the body, and is especially useful in the larynx and pharynx. It can also be introduced in any part of the upper nasal cavity, which is extremely difficult to reach by any other method.

There is another thing which has come to be used in the treatment with radium, and that is an obturator like a plate for artificial teeth, extending backward to the site of the growth and furnished with grooves in which the radium can be placed to the location desired.

As to the hopelessness of cancer of the throat—it is pretty hopeless. The cases all die. We do not get the true statistics of surgery of the larynx. You cannot get them—no one will give them to you; but if you should get them, you would have a pretty ghastly record. Perhaps it might, therefore, be just as well to exercise a little patience toward radium until we find out what it can do, and look forward with a ray of hope meanwhile to cheer the men who are working very hard to perfect it.

(To Be Continued.)

Analyses, Selections, Etc.

The Etiology of Mongolian Imbecility.*

By CHAS. HERRMAN, M. D., Archives of Ped., July, 1917.

Why the Mongolian? This is a question which has puzzled scientists for years. Dr. Herrman discusses the subject rather fully from theories already put forward.

Worry, emotional shock, and diseasees of the mother during pregnancy have always been popular theories which help, especially the laity, to explain the occurrence of their unfortunate issue. No scientific data, however, is obtainable to substantiate such theories.

Immaturity or exhaustion of the generative organs, especially of the mother, is another theory rather popular with the profession. A certain percentage of the mothers of mongols are very young or very old. In about one-third, the mother is over 40 years old. However, there remain the two-thirds in which the mothers are between 20 and 40. Large num-

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

bers of perfectly normal children are born to mothers over 40, and there is no evidence to show that such children are usually weaker physically and mentally than those of preceding pregnancies.

There may have been pressure on the basal ganglia, as shown by the short antero-posterior diameter of the skull, the flat occiput, and the diminished weight of the cerebellum, pons, and medulla. The primary factor is not the deformity of the skull, but the incomplete development of the brain.

Congenital syphilis is considered a strong etiological factor with many observers, but the concensus of opinion is that syphilis is not responsible for the great majority of cases.

The most suggestive evidence concerning the cause of mongolian imbecility is a unit character and recessive, following the Mendelian principles. A number of charts are shown by Dr. Herrman to illustrate and substantiate this theory. He concludes that there is no positive proof that worry, emotional shock, illness during pregnancy, or congenital lues are important factors in the causation of mongolian imbecility. The evidence that the condition is a unit character and recessive, although not conclusive, is certainly suggestive.

Acidosis in Infancy and Childhood.*

By ARCHIBALD D. SMITH, M. D., Archives of Ped., July, 1917.

A very clear distinction is drawn between acidosis and acid intoxication, the former being the result largely of faulty metabolism of fats brought about either indirectly by lessened sugar combustion or by a direct influence of some unknown nature in fat combustion. Though a state of acidosis exists with the acetone bodies present in the blood, the hydrogen ions are rapidly neutralized by sodium in the tissue fluids, potassium in the cells, and by the alkaline earths chiefly derived from the bones. If this is not enough, the excess is neutralized by ammonia derived from the protein. Should more acid be produced than can be neutralized, the reaction of the tissue fluids may be altered and cause symptoms of acid intoxication. Acidosis, therefore, may be very common, though acid intoxication is rare. One passes gradually into the other.

Treatment should be directed towards neutralizing the acid intoxication, alleviating its symptoms and removing the predisposing causes. The patient should be kept in bed, quiet as possible, with the administration of alkalies, and dieting.

Sodium bicarbonate should be given either by mouth or through rectal irrigations, or both. By mouth the dilution should be at least 1 to 30. One dram given each hour will cause an alkaline urine within 24 or 36 hours.

The intestines should be thoroughly emptied and all food withheld until vomiting ceases. A little cracked ice or diluted brandy may be given. When food is commenced, a barley-lactose solution may best be given; after this a food low in fats; then, later, thin cereals are best endured.

Heat and Infant Mortality.*

By C. C. DuBOIS, M. D., Archives of Ped., July, 1917.

Infant metabolism is on a higher plane than adult metabolism. The former requires about twice the caloric energy as the average working adult. Any interference, therefore, with heat conduction and radiation would show its effect more quickly in the infant. The modern housing conditions and the over-clothing practiced by the ignorant mother to prevent catching cold, is no doubt largely responsible for the high mortality curve in summer.

Food, of course, is also an important element. Over-feeding with correspondingly poor heat elimination and high external heat goes far towards increasing or keeping up the summer infant mortality.

In the matter of prophylactic treatment of infants during summer, attention should be especially paid to clothing. Decrease the heat production by giving less food, more suitable food, and more water. Increase heat elimination by scant, permeable clothing, better ventilation and frequent baths.

Acute Ileocolitis in Infancy.*

By JOHN AIKMAN, M. D., Arch. Ped. July, 1917.

This subject is discussed by the author in detail, with a report of 54 cases. The prognosis and treatment are especially important.

Of the 27 children under 6 months of age, 13, or practically one-half, died. The total mortality for the series was 33 1-3 per cent.

Those fed on condensed milk had a very bad prognosis, 8 out of 14 having died.

*Abstracted by Dandridge P. West, M. D., Norfolk, Va.

Only one case showed over 10 stools in 24 hours. Mucus was found in all but one fatal case. 10 of the fatal cases showed blood, the amount passed apparently having had no significance. Pus in the stools was a bad sign. Higher the temperature, worse the prognosis.

The duration averaged 15 days; those recovering were sick about 3 weeks, and those who died averaged 9 days.

Treatment—Prophylactic — Attention is called to the dangers of infection and, therefore, the importance of asepsis and isolation. Particular emphasis is laid on the dangers of using condensed milk.

Active.—Isolation, quiet, good nursing, and avoidance of all unnecessary handling. The child should be seen several times daily during the first few days, as many of these cases sink rapidly and need to be watched closely. If the diarrhœa has been present for a short time, 1 to 2 drams of castor oil should be given. If vomiting is present, calomel is indicated. If the diarrhœa has been present for a week or more, it is sometimes advisable to omit the initial cathartic.

Diet.—Omit all milk for a few days. Allow cereal waters with or without sugar. The latter should be omitted if the stools show a frothy character. Barley water and Eiweissmilch, diluted, may be tried. Later, skimmed milk, sugar, and then whole milk may be tried. *Local treatment* consists of using irrigations of large quantities of water, repeated once or twice daily if the operation is well borne.

Bismuth in 10 grain doses, precipitated sulphur and salol may be of value.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Practical Treatment. Volume IV. By 76 eminent specialists. Edited by JOHN H. MUSSER, Jr., M. D., and THOMAS C. KELLY, M. D., both of the University of Pennsylvania. Desk index to the complete set of four volumes sent with this volume. Octavo 1,000 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1917. Cloth, $7.00 net; Half Morocco, $8.50 net.

The fourth volume of this work has been brought out for the purpose of giving the various original contributors opportunity of making such changes or modifications as have seemed necessary or advisable since the first publication of their articles. Several of the authors have been unable for different reasons to undertake a revision of their articles, and a number of others, including the two editors of the first volumes, have since died. In such cases, other writers of note have filled the gaps, and, in some instances, have completely rewritten articles in order to more fully express their own views. The more specialized new methods of treatment that were not included in the previous books have also been incorporated in this supplementary volume. Apparently every conceivable subject in the field of medical practice has been discussed—specific therapy, hydrology, climatology, electrotherapy, Roentgen therapy, etc.—and the newest treatments of diseased conditions have been recorded in detail. The editors present a most useful and interesting work one that must be seen to be fully appreciated for its wide fund of information.

Editorial.

Medical Society of Virginia—Date of Meeting Postponed One Week.

Although notice has been sent to all members of the State Society of the postponement of the date of meeting from October 23-27, to October 30-November 2, we again call attention of this matter to our readers, as some who see this notice may have overlooked the circulars. The date was changed owing to a conflict in date with several meetings in Chicago and to the fact that a number of doctors from this State wished to attend those meetings as well as that of the Medical Society of Virginia. Also, the speakers to take part in the symposium on "Medical Military Preparedness," would have been unable to attend the Roanoke meeting, on account of the conflict of date.

The last cards issued by the Roanoke committee of arrangements give four reasons why we should all be there. If you have not read these, do it now. Write to a hotel direct, or to Dr. E. P. Tompkins, Roanoke, Va., chairman of the accommodation committee, and have him reserve your room. The meeting promises to be interesting and well attended.

Virginia Doctors in Medical Reserve Corps.

State Health Commissioner, Dr. E. G. Williams, has furnished the following list of Virginia doctors who have joined the Medical Reserve Corps U. S. Army. These names have been sent him from the various counties and the fact that some counties are reported as having "none" does not mean that no doctors from such counties have volunteered, but simply that he has had no report from them. If other names are sent us, we would be glad to publish them. This list, arranged by counties, does not include those who have joined the navy, marine corps, or regular army.

ACCOMAC:—C. E. Critcher, New Church; Ira Hurst, Parksley; G. B. Gill, Tangier; H. C. Mallory, Greenbackville; C. M. Easter, Chincoteague.

ALBEMARLE:—W. H. Goodwin, E. B. Broocks, L. C. Gage and L. W. Hyde, University; H. T. Nelson and D. H. Witt, Charlottesville; R. E. Smith, Crozet.

ALEXANDRIA:—T. F. Dodd, S. B. Moore, and L. Powell, Alexandria; S. M. Corbett, Arlington; S. A. O'Brien, W. A. Frankland, J. B. Pascoe, and C. W. Rauchenback, Fort Myer.

ALLEGHANY:—C. N. Rucker, F. L. Wysor and J. N. Williams, Clifton Forge; H. G. Lind and A. C. Jones, Covington.

AMELIA:—R. J. Styers, Jetersville.

AMHERST:—G. C. Crank, Madison Heights.

APPOMATTOX:—None.

AUGUSTA:—I. R. Wagner, Stuarts Draft; W. M. Phelps, Staunton.

BATH:—E. B. Dovell, Millboro; C. M. Thomas, Healing Springs.

BEDFORD:—None.

BLAND:—None

BOTETOURT:—None.

BRUNSWICK:—B. Barrow, Barrows Store.

BUCHANAN:—None.

BUCKINGHAM:—None.

CAMPBELL:—B. H. Kyle, J. W. Walters, and Thos. Bailey, Jr., Lynchburg.

CAROLINE:—J. R. Travis, New London.

CARROLL:—A. Wise Martin, Hillsville.

CHARLES CITY:—None.

CHARLOTTE:—Ray A. Moore, Phenix.

CHESTERFIELD:—J. L. Tabb, Jr., Midlothian.

CLARKE:—None.

CRAIG:—B. P. Caldwell, New Castle.

CULPEPER:—G. Eastham, Rapidan.

CUMBERLAND:—None.

DICKENSON:—None.

DINWIDDIE AND PRINCE GEORGE:—E. W. Young, McKenney; J. B. Halligan, and D. B. Johnson, Petersburg; Frank Levinson, Chas. W. Waters, and J. N. Elder, Hopewell; H. L. Wyatt, Jas. S. Burger, and Maurice A. Selinger, City Point.

ELIZABETH CITY:—Jas. A. Barker, Geo. C. Beach, R. N. Ervin, and F. E. Jenkins, National Soldiers' Home; H. D. Howe, Thos. R. Collier, P. G. Parker, J. Wilton Hope, and T. M. Wood, Hampton; A. B. Edgar, and W. B. Trowe, Fortress Monroe.

ESSEX:—M. P. Dillard, Center Cross; W. A. Shaw, Loretto.

FAIRFAX:—E. W. Patterson, Fort Hunt; Howard Fletcher, Fairfax; T. C. Quick, Falls Church; A. G. Coumbe, Vienna.

FAUQUIER:—E. B. Noland, Rectortown; G. Y. McMurphy, and R. B. Shackleford, The Plains; E. P. Beverly, Broad Run; P. C. Riley, Markham; W. G. Trow, Warrenton.

FLOYD:—None.

FLUVANNA:—None.

FRANKLIN:—L. C. S. Haynes, Taylors Store.

FREDERICK:—C. A. Young, Gore; B. B. Dutton, Winchester.

GILES:—W. C. Caudill, Pearisburg.

GLOUCESTER:—Thos. R. Marshall, Ware Neck.

GOOCHLAND:—None.

GRAYSON:—W. H. Phipps, Independence.

GREENE:—None.

GREENSVILLE:—None.

HALIFAX:—None.

HANOVER:—None.

HENRICO:—M. L. Anderson, P. V. Anderson, Q. H. Barney, A. A. Barron, G. E. Barksdale, Greer Baughman, O. F. Blankingship, W. B. Blanton, Jas. G. Boisseau, R. C. Bryan, M. B. Coffman, B. L. Crawford, A. I. Dodson, B. F. Eckles, R. C. Fravel, R. Finley Gayle, Jr., J. F. Geisinger, W. W. Gill, I. H. Goldman, K. D. Graves, A. L. Gray, J. L. Hamner, H. J. Hayes, A. L. Herring, B. L. Hillsman, F. M. Hodges, W. B. Hopkins, C. H. Lewis, C. E. Llewellyn, D. D. Martin, Stuart McGuire, J. T. McKinney, Thos H. O'deneal, W. L. Peple, Chas. Phillips, W. B. Porter, B. E. Rhudy, C. L. Rudasill, T. S. Shelton, H. D. Sherman, H. S. Stern, R. E. Timberlake, J. E. Wariner, W. R. Weisiger, R. C. Hooker, H. P. Mauck, F. H. Redwood, J. G. Nelson, J. J. Hulcher, E. G. Hopkins, H. L. Harris, Jr.,

(Col.), A. L. Peters, F. P. Fletcher, Jr., and O C. Brunk, Richmond; and Alexander McLeod, Glen Allen.

Henry:—D. O. Baldwin (Col.), Martinsville.

Highland:—J. F. Stover, Crabbottom; B. P. Swecker, Monterey.

Isle of Wight:—None.

James City:—None.

King & Queen:—None.

King George:—None.

King William:—None.

Lancaster:—H. T. Hawkins, Irvington.

Lee:—None.

Loudoun:—C. E. Foley, Lovettsville; W. H. Janney, Leesburg; H. G. Plaster, Bluemont; G. A. Noland, Ashburn; Leslie T. Rusmiselle, Waterford.

Louisa:—None.

Lunenburg:—R. L. Ozlin, Dundas.

Madison:—None.

Mathews:—E. T. Sandborg, Hicks Wharf.

Mecklenburg:—None.

Middlesex:—None.

Montgomery:—J. T. Shelbourn, Christiansburg.

Nansemond:—None.

Nelson:—None.

New Kent:—None.

Norfolk:—J. W. Anderson, J. A. Bennett, H. C. Bradford, R. W. Browne, C. J. Devine, S. H. Graves, Frank Hancock, Burnley Lankford, A. L. Peay (Col.), G. A. Renn, N. F. Rodman, H. R. Seelinger, R. S. Spilman, R. E. Whitehead, R. L. Williams, R. D. Wolfe, L. Gwathmey, B. R. Kennon, P. M. Carroll, J. S. Hume, R. F. Benthall, and W. E. Driver, Norfolk; L. J. Roper, Port Norfolk; J. C. Dunford, Portsmouth; John B. Foster, and S. A. Rhyne, Ocean View.

Northampton:—None.

Northumberland:—None.

Nottoway:—Alvah Ramsey, Burkeville.

Orange:—None.

Page:—W. J. Olds, Luray.

Patrick:—None.

Pittsylvania:—S. T. Elliott, Danville; C. L. Bailey, Sutherlin.

Powhatan:—None.

Prince Edward:—C. B. Crute, and T. G. Hardy, Farmville.

Prince George:—(See Dinwiddie).

Prince William:—W. F. Merchant, Manassas.

Princess Anne:—None.

Pulaski:—W. A. Lucas, and J. W. Tipton, Pulaski.

Rappahannock:—None.

Richmond:—J. H. Ware, Newland.

Roanoke:—W. H. Saunders, S. B. Cary, F. A. Farmer, H. J. Hagan, Elijah Hicks, G. S. Hurt, E. H. Muse, W. L. Powell, R. L. Rhodes, H. G. Richards, R. G. Simmons, and F. P. Sutherland, Roanoke; A. J. Black, Hollins.

Rockbridge:—Jos. M. Brown, Buena Vista; J. W. H. Pollard, Lexington.

Rockingham:—T. C. Firebaugh, Harrisonburg.

Russell:—S. C. Couch, Jas. M. Taulbee, Cleveland; and T. T. McNeer, Dante.

Scott:—None.

Shenandoah:—None.

Smyth:—R. C. Blankenship and F. B. Hutton, Jr., Marion.

Southampton:—None.

Spotsylvania:—W. A. Harris, Spotsylvania; J. N. Barney, U. F. Bass, F. C. Pratt, and J. E. Rawlings, Fredericksburg.

Stafford:—None.

Surry:—None.

Sussex:—None.

Tazewell:—G. L. Zimmerman, Pounding Mill; J. W. Witten, North Tazewell; J. T. Noel, Shawver Mill.

Warren: C. F. Updike, Browntown; R. P. Cooke, B. F. Compton, and W. J. Olds, Front Royal.

Warwick:—F. A. Sinclair, F. D. Willis, J. H. Robertson (Col.), Otis T. Amory, B. F. Butler, and R. A. Davis, Newport News.

Washington:—Geo. B. Litchfield, and J. C. Motley, Abingdon; Nicholas Ardan, and W. S. Wiley, Bristol.

Westmoreland:—W. L. Brent, and G. B. Harrison, Colonial Beach.

Wise:—Andrew Parson, Stonega; J. A. Rollins, Roda; Jas. G. Bentley, Pardee; C. C. Carr, Toms Creek; H. R. Smith, Appalachia; A. W. Saunders, Norton.

Wythe:—None.

York:—S. B. Berkeley and D. C. Peck, Grafton.

P. O. Address Unknown:—R. W. Lewis and Robert Bailey.

The following are the names of those doctors who have entered the government service through the National Guard of Virginia:—J. Fulmer Bright, Giles B. Cook, F. K. T. War-

rick, Walter N. Mercer, James B. Anderson, John McGuire, and Charles R. Irving, Richmond; Junius F. Lynch, Israel Brown, Herbert R. Drewry, Charles C. Smith, Thomas V. Williamson, George F. Hollar, Charles E. Flowers, and Merritt W. Healy, Norfolk; Samuel P. Oast, Portsmouth; Adam T. Finch, Chase City; Jacob C. Bowman and Guy B. Denit, East Radford; Harry F. White, Fishersville; James Warren Knepp, Roanoke; and William H. Whitmore, Lynchburg.

New Members of State Board of Health.

Dr. Edward McGuire, of this city, has been appointed to succeed Dr. Stuart McGuire as a member of the State Board of Health from the state at large, and Dr. Harry T. Marshall, University, Va., to succeed Dr. T. C. Firebaugh, Harrisonburg, as a member from the Seventh Congressional District. Dr. Stuart McGuire and Dr. Firebaugh have joined the medical reserve corps of the army.

Dr. George B. Lawson, Roanoke, was reappointed a member of the Board from the Sixth Congressional District.

Dr. Meade S. Brent,

Petersburg, Va., was a recent visitor at Hague, Va.

Dr. Basil D. Spalding,

Formerly of this city, but now of Aberdeen, Md., has returned home after a visit to friends and relatives in Richmond and Norfolk, Va.

Married—

Dr. Wiley Wilson Koontz, Spring Creek, Va., and Miss May Leach, Front Royal, Va., October 3.

Dr. Walter Bramblette Martin, Baltimore, and Miss Lucretia Reid De Jarnette, Norfolk, Va., September 14. At present, Dr. Martin, who is a member of the medical reserve corps, is stationed at Ft. Oglethorpe.

Dr. Brockton R. Lyon, U. S. N. R., now stationed at Norfolk, Va., and Miss Edythe R. Muir, Winchester, Va., October 3.

Dr. Samuel Albert Rhyne, formerly of Sarah Leigh Hospital, Norfolk, Va., but now of Charlotte, N. C., and Miss Mary Virginia Cooke, Norfolk, Va., September 25. Dr. Rhyne has recently received his commission as first lieutenant in the U. S. medical reserve corps.

Dr. John Robt. Bagby,

Hickory, Va., who has just recovered from a surgical operation, has been visiting at his old home in Buckingham County, Va.

Medical Students to Have Military Training.

Students of the Medical College of Virginia, by a large majority, have decided to organize for eventual military training. They will wear uniforms and will have a regular army officer to drill them. They also decided to participate in the movement to raise $100,000 from colleges and universities in the South for the Y. M. C. A. army work, the campaign for which begins October 15. By October 1, 260 students had entered for the various classes in the departments of medicine, dentistry and pharmacy. The classes will continue uninterrupted in spite of the fact that a number of the faculty have joined the army. Second, third and fourth year students, who have been called into the service of the country, have been furloughed until actually needed, so that they may continue their studies so as to be ready later for medical service in the army.

Dr. and Mrs. Christopher Tompkins

And daughters, of this city, have returned home from Bay Head, N. J., where they spent the summer.

Dr. C. C. Hudson,

Formerly of Richmond, has resigned as health officer of Danville, Va., to accept a similar position in Charlotte, N. C. He left for his new home October 1.

Resigns as Member of City School Board.

Dr. Charles R. Robins, in September, tendered his resignation as a member of the Richmond City School Board from District No. 2, owing to the fact that he had moved out of the district from which he was elected.

Dr. Clifton M. Miller has been elected to succeed Dr. Robins.

At Harrisonburg.

Drs. J. S. DeJarnette, Staunton, and Peter Winston, Farmville, visited the Harrisonburg, Va., Normal School, early in October.

Medical History of War.

Surgeon General Wm. C. Gorgas, U. S. A., has established a board to collect material for a medical and surgical history of American participation in the European War. The board is composed of Col. C. C. McCulloch, librarian of the Army Medical Library; Maj. F. H. Garrison, assistant librarian in direct

charge of work on the history, and Capt. John S. Fulton, secretary of the Maryland State Board of Health, who will have charge of the statistical work. One phase of the subject which will be given attention is the advance made in reducing both the number of cases of disease and the death rate among those cases occurring. This reduction is forecast by results during the mobilization of United States troops for service on the Mexican border and among the European armies engaged in the war.

Some European countries are known to be well along on medical histories of the war. There is a similar medical history of the Civil War in the United States of 6 volumes, the preparation of which covered a period of 28 years from the end of the war. It is planned to have the work done relatively soon after the end of the war.

Dr. Bertha D. Berger

Has been elected first assistant physician in charge of the women's department of the Western State Hospital, Staunton, Va., to succeed Dr. James H. Garlick, retired.

Dr. W. J. Otis,

First lieutenant, medical reserve corps, of McLean Hospital, Waverley, Mass., is at Ft. Slocum, N. Y., assisting in the examination of recruits.

The Richmond Academy of Medicine and Surgery,

At their regular meeting, September 25, elected Dr. A. G. Brown, of this city, councilor from the third district, to succeed Dr. McGuire Newton, whose term expires at the coming meeting of the Medical Society of Virginia.

The following were elected delegates from the Academy for the Roanoke meeting of the State Society: Drs. J. A. Hodges, C. C. Coleman, Beverley R. Tucker, Stuart N. Michaux and J. Garnett Nelson, all of Richmond.

Dr. George J. Tompkins,

Lynchburg, Va., recently had a rather severe illness from streptococcic infection of the blood, and was for some weeks in St. Andrew's Hospital.

Roanoke Doctors Who Have Joined the Colors.

Drs. J. Warren Knepp, Ernest H. Muse, S. B. Cary, and Geo. S. Hart, of Roanoke, and Allen J. Black, of Hollins, have been commissioned in the medical reserve corps, U. S. A., and have been called to the colors. Dr. R. Gordon Simmons, of Roanoke, has also been commissioned but has not yet been ordered to report.

Dr. T. B. Leonard,

Who, we announced in our last issue, was located in Hopewell, Va., is only temporarily in the plant of the Dupont Company, at City Point, Va. He states that he has *not* relinquished his practice in Richmond. We regret that we misunderstood our informant in making the former note.

The Clinical Congress of Surgeons of North America

Has changed its place of meeting from New York to Chicago. The meeting, which is to be held during the week beginning October 22, is to be of the nature of a "War Convention."

Dr. S. M. Yancey,

Formerly of Charlottesville, Va., but for the past few years of Plant City, Fla., will be at Yancey, Va., for a while, opening up a manganese mine.

Visitation of Tuberculosis Hospitals.

During the past year, the City of Paris has established temporary Tuberculosis Pavilions on the grounds of six general hospitals; the total capacity of these pavilions is 464 beds. The large amount of work thrust upon the civil authorities by war conditions has not permitted much to make the pavilions attractive, so the American Red Cross has secured permission to visit these hospitals and befriend the tuberculous patients. They aim to make the surroundings more cheerful, by providing additional food, games, better equipment, reclining chairs and some form of recreation and entertainment.

Child Welfare Doctors and Nurses

Have been sent to France in three different detachments and work in plenty is found for all, as it is stated that "The demand for children's specialists far exceeds expectations." The Red Cross will endeavor to decrease the present high death-rate among children under two years of age, which, with the falling birth-rate, threatens rapidly to depopulate the country. House to house work and educational campaigns will be conducted both in the cities and through the country districts.

American Red Cross medical work for children of French Repatries has been started. These children are in poor condition, many suffering from tuberculosis, skin and infectious diseases. At Evian, a hospital of 30 beds, for the sickest children, has been opened, and a convalescent hospital of 120 beds, at Thonon, near Evian, is being taken over by the Red Cross and plans are being made for a convalescent hospital of 250 beds at St. Joseph du Lac, also near Evian. Seven ambulances have been sent by the American Red Cross to Evian, for transportation of sick children to the hospitals. One American nurse has been in charge of 120 beds for sick children for eight months, and results with the meagre equipment have been marvellous.

The Red Cross has also established a children's refuge, near Toul, where 750 boys and girls from nearby villages, which have been under bombardment, are now being kept safe from gas attacks under expert medical care, in co-operation with the French government.

In Belgium, the Red Cross, with the co-operation of the Rockefeller Foundation, is preparing to care for between five and six thousand children.

Dr. W. H. Crockford

Has been appointed coroner of Petersburg, Va., to succeed the late Dr. H. Gilbert Leigh.

Dr. W. Reid Putney,

Medical director of Otterburn Springs Sanatorium, has been appointed neurologist for the Southern Railway, at Amelia, Va.

Dr. Charles S. Webb,

Who is first vice-president of the Medical Society of Virginia, has just been re-elected president of the Hermon Association, a Baptist church organization of 7,000 members. He is also chairman of the Caroline County Chapter of the American Red Cross and Mayor of his home town, Bowling Green, Va.

Dr. J. Walter Witten,

North Tazewell, Va., was elected grand chancellor of the Grand Lodge of Virginia Knights of Pythias, at their annual convention in Roanoke, Va., this month.

Dr. and Mrs. T. Nash Broaddus

Have returned to their home in this city after an automobile trip to Baltimore, Washington, Ft. Myer and Arlington.

Dr. William M. Holman,

Lee, Va., was elected treasurer of the American Red Cross Society, recently organized in Goochland County, Va., as a branch of the Richmond chapter.

Dr. and Mrs. William T. Oppenheimer,

Of this city, were recently registered at Hotel Chamberlin, Old Point Comfort, Va.

Hospital Nearing Completion.

The hospital for colored tuberculosis patients, now under construction near Burkeville, is expected to be ready to receive patients by the middle of December. There will be accommodations for thirty patients at that time.

Doctors to Teach at Y. W. C. A.

Drs. J. O. Fitzgerald, I. T. Gorsline and A. P. Traynham will hold classes this year, in first aid to the injured, at the Young Women's Christian Association, of this city.

Substitute for Coroner.

Drs. J. W. Brodnax and P. D. Lipscomb were acting coroners during the recent absence from Richmond of Coroner Whitfield, on a visit to New York.

A Sanitary Campaign in Henrico County

Is shortly to be conducted by the State Board of Health, International Board of Health and Henrico County, each organization paying one-third of the amount of money needed to carry out the campaign. The work will begin with an inspection of school children and will be in charge of Dr. W. J. Innes, of the State Board of Health, assisted by Henrico County physicians.

Dr. William F. Drewry,

Petersburg, Va., was a recent visitor at La Crosse, Va.

Dr. H. B. Mahood,

North Emporia, Va., has returned from a trip to Philadelphia and Atlantic City.

Dr. and Mrs. F. J. Miller,

Of Penn Laird, Va., have returned home after a visit to relatives in Middletown, Conn.

Dr. and Mrs. Robert McC. Glass

And children have returned to their home in Winchester, Va., after a motor trip to Washington, D. C., and vicinity.

Dr. K. M. Ferguson,

Formerly of Marion, Va., is now at The Plains, Va.

Heavy Penalty for Immorality.

The State military affairs committee has reported favorably a bill to guard the naval and military forces from immoral influences. It imposes a fine of $1,000 and one year's imprisonment for renting or conducting a disorderly house within five miles from any navy yard, camp, cantonment, or moblization point for the army or navy. The secretaries of the war or navy may extend the limit to ten miles in their judgment.

Other stringent regulations as to loiterers, etc., are provided.

Dr. Richard M. Hoffman,

Woodstock, Va., attended the ceremonial of the Acca Temple of Shriners held in Staunton, in September.

Dr. and Mrs. Robert W. Baker,

Washington, D. C., were recent guests of the former's sisters in Winchester, Va.

Care of Soldiers' Feet.

The Surgeon General of the Army has arranged for the special care of soldiers' feet—both as to the proper fitting of shoes and the prevention of troubles incident to their work. Many recruits have been wearing improperly fitting shoes and many have not been accustomed to the severe foot work which will be required of them. To avoid and care for these defects, orthopedic surgeons have been detailed to the camps, and they will give special attention to minor foot troubles, which handicap the marching ability and will teach soldiers care of their feet.

Permanent Base Hospitals,

To supplant the tents and temporary structures now occupied by the Red Cross base hospitals in France, are urgently needed before winter sets in. Owing to the scarcity of timber in France, the American Red Cross is preparing to have the lumber shipped for that purpose.

The American Red Cross now has more than a dozen base hospitals in France, each equipped with at least 500 beds, and each in charge of 22 physicians, 2 dentists, 65 Red Cross nurses and 150 enlisted men of the medical corps. Additional doctors and nurses have been sent to a number of the hospitals.

Dr. W. P. Hoy

Has been appointed physician to the city jail, Petersburg, Va., *vice* Dr. Joseph M. Burke, resigned.

Dr. M. O. Burke

And family have returned to Richmond from their summer home at Huguenot Springs, Va.

Dr. Emmett R. Bradley,

Highland Springs, Va., who has been under treatment, is able to resume his practice.

The American Association for Study and Prevention of Infant Mortality

Holds its eighth annual meeting in this city, October 15, 16 and 17, under the presidency of Dr. William C. Woodward, of Washington, D. C. Dr. McGuire Newton is chairman of the local committee of arrangements. The purposes of this conference are to review recent progress in infant and maternal welfare work; to discuss ways and means by which work that is being done for mothers and young children may be directly related to problems that are arising in connection with the war, and to stimulate sound constructive work for the welfare of mothers and young children.

The Washington Eye, Ear, Nose and Throat Hospital

Will move into its new building at 2517 Pennsylvania Avenue, on October 17, 1917. This new four-story building is fire-proof, modern in every detail, and occupies a frontage of 56 feet on Pennsylvania avenue. On the first floor are the clinic, pathological rooms and quarters for help; on the second floor, the waiting-room, library, office, refraction and dark rooms, interns' room, X-ray and microscopical rooms. The third floor comprises private rooms, with and without baths, semi-private rooms, utility rooms, diet kitchens and chart rooms. On the fourth floor are the operating rooms, sterilizing rooms, surgeons' lavatory, sun parlor and nurses' quarters.

The successful completion of this hospital is largely due to the untiring efforts and generous contributions of Dr. Oscar Wilkinson.

The North Atlantic District of the National Association for the Study and Prevention of Tuberculosis

Will hold a conference in Baltimore, Md., October 18 and 19. This district includes New York, Pennsylvania, Maryland, New Jersey, Delaware, District of Columbia, Virginia and West Virginia. Dr. Henry Barton Jacobs and H. Wirt Steele, both of Baltimore, are president and secretary, respectively. There is a vice-president for each State, Dr. Charles R. Grandy, Norfolk, being the vice-president from Virginia. This is one of six conferences to be held in the various parts of the country. The special subject to be discussed will be the preparation for an intensive campaign to prevent the spread of tuberculosis in the American Army and among those rejected by the draft.

Dr. Alan Chenery, U. S. N.,

Now stationed in Portsmouth, Va., and Mrs. Chenery, have been visiting relatives in Ashland, Va. Dr. Chenery graduated this year from the Medical College of Virginia.

Internes Changed.

Dr. S. B. Moore, interne at Pine Camp Hospital, this city, has been transferred to Virginia Hospital, also of Richmond. The vacancy has been filled by the appointment of Dr. J. R. Cain. Both of these young men are undergraduate internes and members of the senior class, Medical College of Virginia.

Dr. A. L. Gray,

Of Richmond, was registered in New York City, the latter part of September.

Dr. A. Avery Rittenour,

Of Berkley, Va., was called to Colorado Springs, the latter part of September, on account of an accident to his wife, who was hurt in an automobile wreck.

Ambulance Company No. 46 in Camp.

The American Red Cross Ambulance Company No. 46, formed under Lt. C. H. Lewis, M. R. C., of this city, left for Camp Lee, September 25. The equipment of the unit included three motor trucks and twelve ambulances, donated by the Richmond chapter of the American Red Cross.

Eight Health Districts for Richmond.

Chief health officer of Richmond, Dr. Roy K. Flannagan, has decided to place each of the eight sanitary inspectors in the health department in a definite district, and to appoint a special complaint man, whose duty it will be to investigate as quickly as possible, and report upon all complaints received at the city health department.

As evidence of the satisfaction Dr. Flannagan is giving in his work, his salary has been raised to that formerly paid to Dr. E. C. Levy.

Dr. A. F. Tuttle,

Spray, N. C., was a recent visitor in this city, having brought his wife to a local hospital.

Dr. H. Page Mauck, M. R. C.,

Of this city, has been ordered to Ft. Oglethorpe, Ga.

A Campaign Against Tuberculosis

Will be undertaken in Richmond, as a result of a meeting recently held by the chief health officer, Dr. R. K. Flannagan. This meeting was attended by the Mayor, chairman of the Administrative Board, Dr. G. Paul LaRoque, medical director of Virginia Hospital, Pine Camp and City Home; Dr. R. S. Preston, chief of the City Home staff; Dr. Robert S. Bosher, chief of Pine Camp staff; Miss Agnes Randolph, of the Anti-Tuberculosis Association, and several health nurses. It is planned to establish two and perhaps more tuberculosis clinics in various sections of the city and, if possible to make the necessary legislative changes, to build two additional pavilions at Pine Camp, one for incipient cases and the other for patients who wish to pay for their care and treatment.

Dr. and Mrs. John R. Blair

Have returned to Richmond, after a motor trip to Amherst, Va.

Dr. J. S. Bachman

Has returned to his home in Bristol, Va.-Tenn., after a ten days' visit to Philadelphia and other eastern cities.

Nurses Graduate in Richmond.

St. Luke's Hospital Training School for Nurses had its annual commencement exercises October 4, in the auditorium of Jefferson Hotel. Ten nurses received diplomas, which were awarded by Dr. Stuart McGuire, surgeon in charge of the hospital. Dr. W. L. Peple, now head of the surgical department of the hospital at Camp Lee, administered the oaths to the nurses, while the address of the evening was made by Mr. Henry Cabell, prominent in Red Cross work in this city.

Ten nurses also graduated from the School of Nursing of Memorial Hospital, October 11. Judge George L. Christian presided, and Governor Stuart delivered the address. Dr. Stuart McGuire, dean of the Medical College of Virginia, presented the diplomas.

Doctors Appointed.

The following doctors are among the chairmen named in the various counties of this State for the food conservation campaign: Drs. P. E. Tucker, Buckingham C. H.; H. U. Stephenson, Toano; J. A. Rice, Heathsville; R. D. Tucker, Powhatan; H. L. Segar, Warsaw.

Dr. R. Finley Gayle, Jr.,

Who was associated with Dr. Beverley R. Tucker, at his Sanatorium in this city, has received a commission as first lieutenant in the medical reserve corps of the army, and been detailed to the Neurological Institute, New York, at which place he has for some time been doing special work in nervous and mental diseases.

Dr. James C. Doughty

Has returned to his home at Onancock, Va., after a trip to Baltimore.

Dr. and Mrs. P. D. Lipscomb,

Richmond, were recent visitors in Accomac, Va.

The Infantile Paralysis Epidemic

In Chicago is apparently at a standstill, judging by the number of cases being reported. On September 29, there were a total of 160 cases being cared for in three hospitals in that city.

Children Die From Lack of Milk.

It has been announced that the recent advance in the price of milk in New York City has caused the death of 400 children. An investigation is being made of the matter, and Dr. E. C. Levy, formerly of Richmond, has been appointed by the milk committee as a special investigator.

Virginia Doctors Attend West Virginia Meeting.

At the meeting of the West Virginia State Medical Association, in Fairmont, early this month, the following doctors from this State were present and contributed papers by invitation: Dr. I. J. Haynes, Richmond, on Medical Economics; Dr. S. S. Gale, Roanoke, an illustrated lecture on the Treatment of Fractures; and Dr. J. D. Willis, also of Roanoke, on Diagnosis and Treatment of Syphilis of the Brain.

Wanted—Resident Physician, at Petersburg, Va., Hospital. Salary, $600 per annum, room, board, laundry, uniform. Usual medical and surgical experience offered. About 1,500 patients annually—1,000 surgical and 500 medical and obstetrical cases.

For further information, address Miss Mary Paul Roper, President, or Dr. J. Bolling Jones.—(Adv.)

Obituary Record.

Dr. H. Gilbert Leigh,

A prominent physician and surgeon of Petersburg, Va., died September 22, at Blue Ridge Summit, Pa., to which place, accompanied by his wife and children, he had gone several weeks ago for the benefit of his health. He was in his fifty-first year. His medical studies were pursued at the University of Virginia and the Bellevue Hospital Medical College, of New York City, from which he graduated in 1891. He was coroner of Petersburg for seventeen years and was for many years one of the surgeons to the Atlantic Coast Line railroad at that place. He was head of the Boy Scout movement in Petersburg, active in the local Red Cross Society, and one of the most popular men in that city. Dr. Leigh was identified with a number of local and other medical societies. He is survived by his wife, three children and a large family connection.

Interment was made in Petersburg.

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FOODS AND FEEDING.*

By PHILIP S. ROY, M. D., Washington, D. C.

Foods are classified as carbohydrates, fats, proteids, inorganic salts, and accessory dietary constituents. The process that food undergoes in the body is called metabolism. When the process is constructive it is anabolism, and when the process is destructive it is catabolism. These processes prepare food for the growth, maintenance, and energy of the body.

We will not enter into the digestion of foods in the alimentary canal but should remember that all carbohydrates before absorption are converted into monosaccharides. Proteids before leaving the intestinal tract are changed into amino acids. Until recently it was thought by physiologists that proteids, fats, carbohydrates and inorganic salts in proper proportions would maintain physiological conditions in the body, but we now know that the accessory dietary constituents are essential for health and life. It has been known for years that improper foods cause scurvy, and it was believed that this was due to a lack of mineral salts in the food, but it is now known to be due to the absence of antiscorbutic properties in the food. These properties are often destroyed in milk by boiling causing scurvy in infants.

Eykman in 1897 observed that beriberi occurred among those living largely on polished rice. He then demonstrated that chickens and pigeons fed on polished rice or highly-milled flour developed the disease, confirming the absence of antineuritic dietary ingredients in these foods. Recent investigations have proved that antiscorbutic and antineuritic substances are found in many foods, as is shown by the following tables:

ANTISCORBUTIC PROPERTIES.

RELATIVELY RICH	RELATIVELY POOR.
Fresh vegetables	Dried vegetables
Fresh fruits	Dried fruits
Raw milk	Sterilized milk
Raw meat	Canned meat
Cereals, sprouting	Dried cereals
	Pork fat
	Starch
	Molasses
	Corn syrup

ANTINEURITIC PROPERTIES.

RELATIVELY RICH	RELATIVELY POOR
Brewers' yeast	Sterilized milk
Egg yolk	Sterilized meat
Ox heart	Cabbage
Milk (fresh)	
Beef and other fresh meats	Turnips
	Carrrots and other vegetables of their type
Fish	
Beans	Highly-milled cereals
Peas	Starch
Oats	Molasses
Barley	Corn Syrup
Wheat	
Corn	
Other cereals	

Nothing is more marvelous than the action of brewers' yeast on a pigeon affected with beriberi. A pigeon, seemingly at the point of death, will, after the administration of a teaspoonful of brewers' yeast, in two hours regain all its powers of locomotion and appear perfectly well. This would suggest that the damage to the nervous system is probably in the liquid portion of the nerves rather than in the more solid tissue, because it is hard to conceive that the solid nerve tissue could be so rapidly affected by any remedial agent. We know how necessary mineral substances are to the liquid portion of the autonomic nervous system. The proper conduction between the preganglionic fibers and the postganglionic fibers needs the presence of calcium and other

*Read before the Warren, Rappahannock, Page County (Va.), Medical Society, August 14, 1917.

salts in the fluids that bathe the terminal nerve fibers. The presence of accessory dietary ingredients in foods has been further demonstrated by McCullum, Osborne and Mendel. They have shown that pure fats, proteids and carbohydrates, even with proper mineral ingredients, will not maintain the normal growth in young rats. For a more definite knowledge of the chemistry of these dietary substances we are indebted to Funk, Suzuki and their collaborators. Funk in 1912 found a crystalline substance in the polishings of rice that would cure beriberi, to which he gave the name vitamine. All the investigations along the line of vitamines point to the fact that there must be a definite relation between our carbohydrate intake and our vitamine intake. There must always be a minimum quantity of vitamines to prevent beriberi and scurvy. Only vegetables can manufacture from the elements carbon, hydrogen, oxygen and nitrogen vitamines. When found in animal foods, they have been stowed by the animal from vegetable foods. Vitamines are destroyed by a temperature of 120° C. in from one to three hours, and even at a lower temperature, for the boiling of milk at 100° C. will destroy the antiscorbutic vitamines and cause infantile scurvy. Another interesting point about vitamines is that drying vegetables reduces the antiscorbutic vitamines, while it but slightly affects the antineuritic. I do not believe the vitamine qualities of canned foods have been very completely studied, but Voegtlin has shown that canned peas and beans retain antineuritic vitamines. McCullum and others have shown recently a group of substances in milk which influence the growth of growing animals—fat soluble B and water soluble B—and they believe these substances are produced by animals.

We have already mentioned the fact that the vitamine group cannot be produced by animals, and it is possible that later it will be shown that fat soluble B and water soluble B, found in animal tissue, are but forms of vitamines that have been obtained from the vegetable kingdom. The necessary balance between vitamines and carbohydrates suggests an explanation for the belief of the older clinicians that too much sweet and starchy food would cause rheumatism. Is it not possible that an overbalance of carbohydrate diet may cause neuritic pains which have usually been classed as rheumatic pains?

It seems to be conclusively proven that scurvy and beriberi are diseases caused by improper food supply. We are not so certain about pellagra, although the wonderful results obtained by Goldberger and others, from proper feeding, would suggest that pellagra will be classed as a "food disease." Rickets is probably due to improper feeding.

Scientific feeding cannot be carried on by those who do not know the chemistry of foods, but it is comparatively easy to learn all that is of practical value. We know what substances contain fats, carbohydrates and proteids, and we know that necessary salts are generally obtained in a mixed diet; and with a rapidly increasing knowledge of the foods furnishing vitamines, it is an easy task to learn the science of feeding. There are several interesting points that may be mentioned here—certain fats seem to be especially suitable to stimulate growth in the young, and the three that Mendel most particularly mentions are butter fat, egg fat and cod liver oil.

Another important thing to remember is that the human body cannot be kept in a physiological condition for any great length of time without carbohydrates. They are needed for the metabolism of proteids. It has been generally taught in books on feeding that fats will replace carbohydrates. It has been mentioned that proteids in the process of digestion are converted into amino acids, and only as amino acids can proteids be utilized by the body.

All proteids are not complete proteids. In other words, they do not make a complete group of amino acids. Wheat has two proteids, wheat glutenin and wheat gliadin. The former proteid contains a complete group of amino acids similar to that of casein; the latter proteid is very different, containing no lysin which is one of the important amino acids of nutrition. Indian corn also contains two proteids, glutenin, the complete proteid which was mentioned as occurring in wheat, and zein, an incomplete proteid like gelatine, containing no tryptophan. Tryptophan is one of the essential proteids of the body.

The relative physiological availability of proteids of different origins has been shown by

the experiments of Thomas, according to which the following minimum amounts are required to protect the body-proteid from loss.

Meat proteid	30 grams
Milk proteid	31 grams
Rice proteid	34 grams
Potato proteid	38 grams
Bean proteid	54 grams
Bread proteid	76 grams
Indian corn proteid	102 grams

It is interesting to note how nearly the proteids of rice and potatoes approach in excellence that of meat or milk, and you will be struck with how much larger quantities of bread and Indian corn proteid have to be given on account of the two incomplete proteids—gliadin in wheat and zein in corn.

The present processes of preparing wheat and other grains often eliminate a certain per cent. of mineral ingredients, and vitamines, but it is now known that the value of the convertible proteid is but slightly reduced, which is contrary to the teaching of many popular articles on the subject. We know that a growing organism requires a large amount of calcium for bone tissue, and there is no food richer in calcium than milk. We know also that it is necessary to have a certain amount of sodium in the body to produce proper muscle contractions, and if there is excess of potassium salts the muscles contract very slowly, but the very important role of salts and ions in the living body is far from being understood. It is evident that they regulate the reaction of the body fluids and tissues, maintaining a level of osmotic pressure. The importance of salts and ions may be summed up in Mann's words: "Socalled pure ash-free proteids are chemically inert, and in the true sense of the word, dead bodies. What puts life into them is the presence of electrolytes."

The food value of fats, carbohydrates and proteids is measured in calories. A calory is the amount of heat necessary to raise a kilogram of water (a little more than a quart) 1° C. Every gram of fat represents nine calories, every gram of proteid, four calories, and every gram of carbohydrate four calories.

An individual doing moderate work, with a weight of 150 pounds, requires 2,500 calories daily—proportioned, accordingly, 80 grams of proteid, 400 grams of carbohydrate and 100 grams of fat. The proportions of fat and carbohydrate may vary somewhat from day to day, but the proteid should be definite. Men doing farm work require much higher caloric feeding than those doing moderate work, and it is interesting to note that the number of calories required for a farmer varies very little in different climates:

Farmers in Connecticut	3,410 calories
Farmers in Vermont	3,635 calories
Farmers in New York	3,785 calories
Farmers in Mexico	3,435 calories
Farmers in Italy	3,565 calories
Farmers in Finland	3,474 calories
Average	3,551 calories

Fats contain only about 5 per cent. water, and it is very easy, if we know the quantity of fat, to estimate the number of calories it contains, but in carbohydrate and proteid feeding, this is very different, because the carbohydrates are mixed with a large per cent. of water, and the proteids with a large per cent. of fat and water, which have to be estimated. Our carbohydrates are largely gotten from vegetables and bread. Bread contains about 50 per cent. carbohydrate. The vegetable foods containing the largest amount of carbohydrates do not exceed 20 per cent. These are potatoes, baked beans, green corn, boiled rice and boiled macaroni. The next highest group, green peas, parsnips and lima beans, contain 15 per cent.—the available carbohydrate, not over 12 per cent. Beets, carrots, squash, pumpkin and turnips have only 10 per cent. carbohydrate, the available carbohydrate being about 6 per cent., while the so-called green vegetables, which are so much used in feeding diabetic patients, contain only 5 per cent.—3 per cent. of which is available.

Of the fruits, banana is the only fruit that has 20 per cent. available carbohydrate. Many of the others contain 10 per cent., but rarely higher. Nuts are rich in food value, all, except chestnuts, having a large per cent. of fat. Most of them have a carbohydrate content of 15 to 20 per cent. Therefore, with but little effort, we can approximate the carbohydrate value of foods.

Among our chief sources of proteid are meats, fish and game. In none of these foods, after cooking, is there more than 25 per cent. proteid. The rest is composed either of water or fat, with mineral ingredients. Milk contains 4 per cent. proteid, and eggs 15 per cent. The per cent. of vegetable proteid to be ob-

tained from beans, peas, nuts, cereals, rice, potatoes and other vegetable substances should be known.

With a knowledge of food values, and the cost of these foods, we can readily establish economical feeding. It has already been mentioned that in estimating the proteid value of foods we must remember that many of the vegetable proteids cannot be utilized as completely by the human system as the animal proteids, and when it is stated that 80 grams of proteid must be furnished a day to the system, it is based upon proteid which is completely available.

It has been shown by the work of DuBois that at rest in bed the body of normal persons metabolizes 34.2 calories per square meter of the body surface per hour. This metabolism is almost doubled in hyperthyroidism, and is raised 40 or 50 per cent. in typhoid fever. This is practically true in all fevers of any duration. The work of DuBois has conclusively proven that in fever, metabolism is so much above normal that even proteid, which causes the highest metabolism of all food, cannot increase fever. This accurate knowledge of metabolism has revolutionized feeding in all diseases, but particularly in typhoid fever.

I shall not go extensively into feeding in typhoid fever, but it is interesting to know that even the digestion of food in typhoid fever is 90 per cent. of normal. With this knowledge and the knowledge that food cannot increase fever, we can without hesitation feed our patient to the full limit of his individual capacity to take food. Since broth has been omitted from the diet of typhoid patients, except in very moderate quantities, diarrhœa is rather the exception in this disease. I have found that solid food suits these cases much better than liquids, and use as far as possible, rice, baked potato, custard, eggs, meat balls. peaches and cream, ice-cream, bread and butter. It is very interesting to observe that on a solid diet patients are nearly always ready to take their food every three hours. While they do not express an appetite for food, yet there is a stomach sensation that makes them readily take it, which is absent with a liquid diet. There is another advantage in solid food—the patient in masticating the food keeps the mouth well supplied with saliva. Most of the dry tongues of typhoid fever are due to liquid diet, or to under-feeding.

The dreaded intestinal ulcers of typhoid fever, with the fatal hemmorrhage and perforation that result in many cases, are often brought about by under-nutrition. In the fifteen years in which I have been feeding with solid foods I have never had an intestinal hemorrhage.

The high metabolism in hyperthyroidism at once suggests rest and forced feeding, and in moderate cases of hyperthyroidism, where every source of infection, such as teeth, tonsils, etc., have been removed, I have seen some brilliant results.

Chronic diarrhœas present one of the most important and difficult subjects to the clinician. Until the cause of the diarrhœa is obtained by stomach analysis and analysis of the feces, only a few general points in feeding can be given. Many chronic diarrhœas in persons past 50 are due to a lack of hydrochloric acid, and if we give hydrochloric acid in these cases the diarrhœa will at once subside. There is another class of persons who have an excess of hydrochloric acid and also have chronic diarrhœa or oftener, diarrhœa and constipation alternately. These persons often speak of heartburn, which would suggest hyperacidity.

When diarrhœa is caused by hyperadicity, a liberal meat and fat diet, with a lessening of carbohydrates, will bring about a cure. In catarrhal conditions of the small and large intestines causing diarrhœa, a close inspection of feces will sometimes enable us to make a diagnosis, either from the large excess of mucus in the movements or quantities of undigested food visible to the naked eye.

There is a great diversity of opinion as to how these persons with chronic diarrhœa due to catarrh of the intestines should be fed. Some think a meat diet is of great benefit, and others, a milk diet exclusively, while we read the opinion of such authority as Rosenheim, who says patients always do badly on a milk diet. There is a unanimity of opinion that fruits and salads and highly spiced dishes, cold vegetables and all substances which induce peristalsis should be avoided. Sometimes it is advisable for a reasonable time to rest the intestines as much as possible, feeding the person

on egg albumin and water. Even in these catarrhal conditions we cannot always exclude a strong nervous element, probably a vagatonia, and in these cases if the person has been much reduced by diarrhœa, we must feed liberally even if we have to give astringents and sedatives to prevent excessive diarrhœa.

In all diarrhœas, if possible, we should determine the cause. There has been little advance made in feeding in stomach and duodenal ulcers in the last few years. Milk, barley water and cream are the best foods for the early treatment. As the patient improves, gradually add bread, eggs and moderate quantities of meat and strained vegetables. Broth should never be given in these cases, because it stimulates gastric juice, increasing the hydrochloric acid which is already excessive, making the patient go from bad to worse. In a certain class of cases, duodenal feeding has been of great benefit.

After some surgical operations, and in certain acute stomach conditions with vomiting, rectal feeding is absolutely essential, and it is distressing to note the formulas still given in the most recent books on rectal feeding, proteids holding first place in these formulas. We have no reason to suppose that proteids can be converted into amino acids in the rectum, and proteids can be used by the system for building purposes only in the form of amino acids. Therefore, it is absolutely useless to give eggs, milk or other proteid, in feeding by the rectum. Any of the monosaccharides are available, glucose being the one most used, though any of the maltose foods on the market, in the form of infant foods, can be used. A ten per cent. glucose or maltose can be introduced into the rectum either by the drop method, or, as I prefer, 1½ ounces of glucose or maltose in eight ounces of normal salt solution slowly given through a catheter every six hours. This will give enough carbohydrate to protect the body proteid for many days from any serious damage.

With the elimination of alcohol as a therapeutic agent, I will not recommend this as an addition to rectal feeding, though there can be no doubt that alcohol is rapidly absorbed from the rectum, and will protect body proteid. It must be remembered, however, that alcohol is a narcotic, never a stimulant. Strong coffee used in the rectum is one of our quickest and best stimulants where collapse is imminent, in cases that can not be fed by the mouth.

Great stress has been laid upon the value of diet in high blood pressure, many believing that a properly regulated diet will in most instances reduce blood pressure. I have never gotten satisfactory results from diet in high blood pressure, however carefully regulated. Blood pressure at times varies as much as 50 mm. Hg. systolic, in the same individual in the course of a week, without either medicine or diet. This subject is thus summed up in a recent article by Sir James Mackenzie:

"It is as a guide to treatment that blood pressure is supposed to be of especial value. Happily here we are prevented from doing any harm for we are practically powerless to affect the blood pressure. Hot baths or some drugs, as the nitrates, may reduce the blood pressure, but the effect lasts only a few seconds or a few minutees. By starvation and purging the blood pressure may be temporarily reduced but it soon returns to its old height. It has been a matter of interest to me for many years to note the attitude of spa physicians towards blood pressure. A short time ago I was consulted by a man on his way to a watering place. His blood pressure was 190 mm. Hg. He returned two months later very cheerful because his spa physician had reduced his blood pressure to 130 mm. Hg. I again took the blood pressure and found it 195. I did not undeceive him as his delusion made him very happy. Diets for blood pressure have been given in most contradictory prescriptions: all flesh diet, vegetarian diet, purin-free diet, and various other modifications, baths and waters, and exercises of all kinds, high frequency current and other electrical devices: notwithstanding this the blood pressure has remained high. You will, therefore, undertsand that I am not capable of throwing much light upon the subject. When I find the systolic blood pressure approaching 200 mm. Hg. I seek for evidence of damage in the blood vessels, in the heart, and in the kidneys, and it is upon results found there that I base both my prognosis and treatment." The sum of knowledge at present seems to be simple living in high blood pressure.

Gout is a disturbance of the metabolism of

purins, often hereditary, in which an excess of uric acid accumulates in the blood and in the tissues. Kossell showed that uric acid comes from the purin bases, and Emil Fischer cleared up the relationship of the various purin bodies to one another.

Just why uric acid does accumulate in the blood and produce the condition we call gout is not clearly understood, but we do know that in all gouty patients there is an excess of uric acid in the blood. There can be no question that many persons will have gout, though practically living on a purin-free diet, the purins in the body forming endogenous uric acid. These body purins that form uric acid are derived from the cell nucleins of the body. In gout, as in all other diseases that are markedly regulated by diet, the physician must know the purin-free foods.

Purin-free foods, containing no purins or only traces, are bread; cereals (oatmeal, rice, sago, tapioca, etc.); fruits (bananas, pineapples, peaches, grapes, pears, plums, cranberries, oranges, apricots, huckleberries, apples); nuts (walnuts, hazelnuts, almonds); certain vegetables (cucumbers, cabbage, turnips, onions. tomatoes); milk, cream, butter, certain cheeses (Edam, Swiss, Gervais, Roquefort); eggs.

Purin-containing foods are meats; certain vegetables (spinach, peas and beans): sweetbreads, liver, kidney and broths. Coffee, tea, chocolate and cocoa contain methylpurins, but they do not give rise to uric acid. While alcohol and carbohydrates contain no purin, yet they distrub metabolism and cause gout; even fat must be restricted.

There is one drug that especially effects the elimination of uric acid—atophan. Atophan should not be given in an attack, for at that time the kidneys are already excreting an excess of uric acid. Benefit is derived from colchicum and salicylates. The diagnosis of gout, in cases where there are not already marked joint changes shown by physical examination and X-ray, is difficult, since it must be based upon metabolic tests that require exact chemical analysis. A demonstration must be made of the endogenous uricemia and the delayed excretion of exogenous purins. The examination of the uric acid content of the urine, in the absence of rigid dietetic control, is worthless. So often, in cases of gout, the question is asked, "What meats shall I eat?" Graham Lusk, in answering this question, says: "Chemical analysis shows no difference." The substances which are convertible into uric acid are present in all meats, in about the same quantity.

Joslin writes: "The definition of diabetes is unsatisfactory, but it is safe to say that diabetes is a disease in which the normal utilization of carbohydrate is impaired and in consequence of which glucose is excreted in the urine. My rule in the treatment of diabetes is to consider a patient as having diabetes mellitus and to treat him as such until the contrary is proven."

Allen defines diabetes as a deficiency of pancreatic amboceptor.

Joslin has recently written as follows of diet in diabetes: "The quantity of carbohydrate, proteid and fat found in an ordinary diet must be known by a physician if he wishes to treat a case of diabetes in modern fashion. If he cannot calculate the diet, he will lose the respect of his patient." Further than that, the physician must know that six or seven of the amino acids of proteid can be converted into carbohydrates, and often will cause sugar in the urine of a diabetic when no carbohydrate is being given.

When we are familiar with food values the treatment of diabetes by the Allen method of fasting becomes exceedingly simple. In many cases it is best to reduce the diet gradually, first eliminating fats and then gradually reducing the proteid and carbohydrate. I have never had the slightest trouble in using the fasting method. It does not require the patient to go to bed, and he may see his friends, and write and read. His diet should be coffee, water and broths. The time of fasting required to eliminate sugar from the urine varies with different persons. I have seen urine with 5 per cent. sugar become sugar-free after fasting 24 hours, and again with 2 or 3 per cent. it has required fasting three or four days. After the urine is sugar-free we test the patient's carbohydrate tolerance. After two days' carbohydrate feeding, not exceeding 20 grams of carbohydrate daily, given in the form of green vegetables (lettuce being one of the best, as its bulk seems to be more satisfying to the stomach) we add proteid, if the urine is sugar-

free, and give on the first day 20 grams of proteid, increasing it 15 grams each day until the patient receives one gram of proteid per kilogram body weight. If the urine is still free from sugar, we then commence adding fat to the diet and thus slowly determine the carbohydrate tolerance of the patient; and also his tolerance of fat, which is the quantity of fat that can be taken without the appearance of diacetic acid in the urine. The appearance of diacetic acid at once warns us that we must reduce the fat, and, if necessary, return to the fasting. Joslin is convinced that no alkaline treatment in acidosis equals the prompt improvement effected by reducing fat. Though fat should be given carefully, we largely depend upon it for energy in this disease.

There can be no question that, after all, we must teach diabetic patients to treat themselves. Not only must they know the proper foods, but they must learn to make the urinary analysis for sugar and for diacetic acid. Any of the copper tests can be used for sugar and the U. S. P. solution of the chloride of iron will detect the diacetic acid in the urine. The first two or three drops of iron solution will make the urine muddy by throwing down phosphates, but the addition of a few more drops will clear the urine, and if diacetic acid is present, a bright red wine-color will appear. If the patient has been taking salicylates, salol, or antipyrin, we get the same coloring as in diacetic acid, but upon heating the urine, it will return to normal if the color is due to diacetic acid, while it will continue wine-color if due to drugs.

In the dietetic treatment of nephritis, the paper of Chase and Rose in the *Journal of the American Medical Association* of August 11, 1917, and that of Albert A. Epstein, in the *Journal* of the same date, give the latest views on this subject.

1200 *Msssachusetts Avenue, N. W.*

PRENATAL CARE OF DISPENSARY PATIENTS.*

By M. PIERCE RUCKER, M. D., Richmond, Va.

One of the results of this age of specialization in which we live is that, from an obstetrical standpoint, women have decidedly deteriorated. In the days of our mothers, the population was more rural in character. Woman's occupation was more varied and, under one pretext or another, she got out of doors often. Going to market was a part of her daily routine, and she had the supervision of the garden or lawn in addition to her household duties. The result was, with the varied exercise, fresh air, and fresher food, the woman of yesterday had better muscle, better bone, and better nerves, than her daughters of today. In this day of electricity and the bedside telephone, woman has no incentive to exercise, and stays cooped up in her steam-heated apartment, often for days at the time. Her poorer sister is no better off. She goes into the office or factory at the age of 15 or 16, and spends most of the hours of sunshine indoors, performing some monotonous occupation. The result is an anæmic, under-developed body, ill-fitted for the duties of motherhood. The woman of today, therefore, whether rich or poor, needs careful watching during pregnancy, in order that she may approach the ordeal of labor on anything like an equal footing with the woman of yesterday.

At the Medical College of Virginia we have established a pregnancy clinic in connection with the out-patient obstetrical service, and as a part of the free dispensary. As yet, it is one of the smallest departments of the dispensary, for the idea of prenatal care is new to the public of the dispensary class. We try to get our patients as early as possible in their pregnancy. Our cases fall into two groups: one a very early group, in which the patient comes, or is sent, often by the Juvenile Court, for a diagnosis. These cases rarely come back. The second group is a more normal one, and consists of women who are anxious to derive the benefits of prenatal care. These patients come usually in the seventh or eighth month of pregnancy. We take a careful history of all patients, going into their history of past illnesses, menstrual history, and history of previous pregnancies, labors and abortions. We also go briefly into the family history and the husband's history. A general examination is made, including inspection of the head and neck, and examination of the heart, lungs and breasts. Special attention is given to abdominal palpation and pelvimetry. The foetal heart is located and counted. On vaginal examina-

*Read before the Tri-State Medical Association of the Carolinas and Virginia, at Durham, N. C., February 21-22, 1917.

tion, besides noting the condition of the vagina, perineum, bony canal, and cervix, the oblique diameter and the pelvic outlet is measured. Collecting blood for the Wassermann is a part of the routine of the first examination, as well as blood pressure determination and urinalysis. The urine and the blood are examined in the clinical laboratory of the dispensary. The patient reports every two weeks for examination of the urine and blood pressure readings. At these visits she is questioned as to headaches, her bowels and her appetite. 41.11 per cent. of our cases have a positive Wassermann reaction. I might say, in justice to the women of Richmond, that this percentage applies only to dispensary patients. In my private practice only one case in eighteen gives a positive reaction. The positive Wassermann cases are put on mercury and iodides, and this constitutes most of the medication done in the clinic except some laxative for the bowels, and occasionally some sedative for the backache or pressure pains in the abdomen. Several of our patients have had abnormally high blood pressures, not associated with urinary findings. These cases we have treated by dieting, just as though they had albumen and casts in the urine, but with no marked results. I might say in passing that these cases had an uneventful labor, in spite of our anxiety. Very few of our patients have required treatment on account of kidney conditions. One patient came in the sixth month of pregnancy with the history of having lost two children at birth on account of their excessive size. She was delivered with forceps each time and the babies weighed between eleven and twelve pounds. She was very anxious for a living child. We put her on Prochownick's diet, which she followed strictly. The result was that she was delivered spontaneously by the students of a seven-pound living baby.

Eighty-two of our cases proved to be pregnant, and of these nineteen had a four plus Wassermann reaction, and twenty-six a negative one. The test was not made, or at least not recorded, in thirty-seven cases. It is interesting to consider the number of living children and miscarriages (including abortions) in these several groups. In seventy-three cases in which the number of children and miscarriages were noted, there were 109 children and 45 miscarriages, or an average of 1.49 and 0.61 per case, respectively. The negative Wassermann group gives approximately the same figures, i. e., 1.64 and 0.76 per case of living children and still-births. When, however, we consider the cases that were positive, the picture is entirely different. The eighteen cases of this group in which information is given concerning previous children and miscarriages had eight living children and nine still-births, or an average of 0.44 and 0.5 per case. It might be argued, that this group is composed of cases that are early in their child-bearing career and that many of them would later be Wassermann-negative. In other words, this group has automatically only the early cases, while the Wassermann-negative group contains both young and old syphilitic free and the old syphilitic cases that no longer react. That this is not the sole factor is shown by the fact that this is the only group that has more still-births than living babies, although the actual percentage of still-births is lower than in the other groups.

The systolic blood pressure was below 100 in five cases, between 100 and 130 in thirty-four, and above 130 mm. of Hg. in ten. It was not recorded on the history in thirty-three cases. There was nothing unusual in the low pressure cases or in their outcome. The highest pressure of our series was 220. She had hyaline casts and a trace of albumen. One other case had granular casts. The only mortality in this group was that of the macerated foetus of an epileptic, who had a systolic blood pressure of 155. Four cases of this group had heart lesions, a rather high percentage when you consider there were only nine among all of out-patients. All of our heart cases had good compensation.

We have been able to trace forty-six of our cases after delivery. There were forty-five live babies and two still-births, there being one set of twins. Two of the babies died within four days. The remainder were alive upon discharge, although one had a syphilitic eruption. No Wassermann was done on the mother of one of the still-births, and the mother of the other, a macerated foetus, was an epileptic with a negative Wassermann. The mothers of the two babies that died shortly after birth, both had funnel pelves. The mother of the child with the rash had a four plus Wassermann.

For purposes of comparison, Miss Minor, of the Instructive Visiting Nurses' Association, has collected for me forty-four cases that were

delivered by the students during the same period of time, but who had not been to the dispensary. In other words, these cases occurred at the same time among the same class of people and received the same attention except that they had had no dispensary care. This series included two sets of twins (all four lived), so there were forty-six babies. One mother died of tuberculosis on the tenth day. There were twelve still-births and one baby died on the fourth day. The remainder, or thirty-three babies, were alive when discharged. The mortality in the first, or dispensary group, was no mothers, two infants and two still-births, and in the second, or non-dispensary group, one mother, one infant and twelve still-births.

I am well aware that my cases have been too few to draw any conclusions, but a comparison of the two series of cases is certainly encouraging to the dispensary staff.

Dispensary No.	Previous Children	Abortions and Still Births	Heart	Lungs	Wassermann	Systolic Blood Pressure	Diastolic Blood Pressure	Urine	Pelvis	Condition of Child	REMARKS
----	--	--	------	----	--------	----	----	----	-------	O. K., 6 fingers to each hand	
----	1	0	------	----	0	100	65	----	Normal	O. K.	
2197	4	1	Tricuspid	Clear	0	110	60	Neg.	Normal	------	
2420	1	0	Clear	Clear	0	100	60	Neg.	Normal	O. K.	
3165	7	1	------	----	0	220	145	Casts	Normal	O. K.	
3274	1	0	------	----	--------	----	----	----	-------	Still B.	
3669	1	0	------	----	--------	110	70	----	Normal	------	
6076	2	2	------	----	--------	----	----	Neg.	Normal	O. K.	
6947	0	3	Clear	Clear	++++	95	65	----	Normal	O. K.	
7006	3	1	------	----	--------	----	----	Neg.	Normal	O. K.	
7542	--	--	------	----	0	----	----	----	Normal	------	
8176	0	0	Clear	Clear	++++	80	50	Neg.	-------	Living, syphilitic eruption	
9077	4	1	Clear	Clear	--------	122	80	----	Normal	------	
9127	0	0	Clear	Clear	++++	110	----	----	Normal	------	
9179	--	--	------	----	++++	----	----	----	Normal	------	
9288	1	1	------	----	0	----	----	----	-------	------	
10041	3	2	Clear	Clear	--------	----	----	----	-------	------	
10153	1	2	Clear	Clear	--------	116	----	----	Normal	O. K.	
10286	7	0	Systolic	Clear	--------	118	----	Neg.	Normal	O. K.	
10376	0	0	Clear	Clear	--------	----	----	----	Normal	------	
10386	1	0	------	----	--------	----	----	Neg.	-------	------	
10400	6	4	Systolic	Clear	0	180	115	Neg.	Normal	O. K.	
10588	7	1	Clear	Clear	--------	140	85	Neg.	Normal	O. K.	
10665	2	0	Clear	Clear	--------	----	----	Neg.	Normal	------	
11031	1	0	Clear	Clear	0	145	115	----	Normal	------	
11049	0	0	------	----	--------	----	----	Casts	-------	O. K.	
11053	2	0	------	----	--------	110	----	----	Normal	O. K.	
11244	1	2	------	----	--------	----	----	Neg.	Normal	------	
11388	1	0	------	----	--------	----	----	----	Normal	O. K.	
11414	1	0	------	----	--------	----	----	----	-------	------	
11415	1	0	------	----	--------	----	----	----	Justo-Min.	O. K.	
11862	0	1	Clear	Clear	0	105	80	Alb.++	Funnel	Died when 4 days old.	
11878	0	0	Clear	Clear	--------	125	85	Neg.	Justo-Min.	O. K.	
11973	2	0	Clear	Clear	++++	110	55	Neg.	Justo-Min.	O. K.	
12272	0	0	Clear	Clear	--------	125	70	----	Normal	------	
12445	4	0	Clear	Clear	0	125	70	----	-------	------	
12449	0	0	------	----	--------	----	----	Neg.	-------	------	
12471	2	2	Clear	Clear	0	105	70	Neg.	Normal	O. K.	
12760	1	0	Clear	Clear	++++	110	70	Neg.	Normal	------	
12962	2	4	Systolic	Clear	0	195	110	Tr. alb.	Normal	------	
12994	9	5	------	----	--------	----	----	----	-------	O. K.	
13021	1	0	Clear	Clear	0	105	85	Casts	Normal	O. K.	
13201	3	0	------	----	--------	----	----	Neg.	Normal	O. K.	
13226	--	--	------	----	--------	----	----	----	-------	O. K. Twins.	
13273	2	3	Clear	Clear	++++	120	70	----	Normal	O. K.	
13417	0	0	------	----	++++	115	50	----	Normal	O. K.	
13434	0	0	Clear	Clear	0	120	90	Neg.	Normal	O. K.	
13481	0	0	Clear	Clear	0	105	50	----	Normal	------	
13559	0	0	------	----	++++	----	----	----	Normal	------	
13727	0	1	Clear	Clear	++++	100	85	----	Normal	O. K.	
13771	0	0	Clear	Clear	++++	120	70	Neg.	Normal	------	
13827	1	0	Systolic	Clear	0	----	----	----	Normal	O. K.	
13844	0	1	Irreg.	Clear	0	135	70	----	Justo-Min.	------	

Dispensary No.	Previous Children	Abortions and Still Births	Heart	Lungs	Wassermann	Systolic Blood Pressure	Diastolic Blood Pressure	Urine	Pelvis	Condition of Child	REMARKS
13966	0	0	Clear	Clear	++++	115	75	Neg.	Justo-Min.	O. K.	
14093	0	0	Systolic	Clear	0	132	90	----	Normal	O. K.	
14093	1	0	Clear	Clear	0	115	70	----	Flat-rachitic	------	
14123	1	0	Clear	Clear	++++	180	110	----	Normal	O. K.	
14155	0	0	Clear	Clear	0	95	75	Neg.	Normal	O. K.	
14351	0	1	------	----	--------	----	----	----	Normal	O. K.	
14363	0	0	------	----	--------	----	----	----	Normal	O. K.	
14503	0	0	Clear	Clear	+	110	70	Neg.	Normal	------	
14782	4	0	Clear	Clear	--------	135	95	Neg.	Justo-Min.	O. K.	
14831	--	--	------	----	--------	----	----	----	------	------	
15013	0	1	------	----	++++	----	----	----	-------	------	
15055	10	5	Systolic	Clear	0	110	70	----	Normal	------	
15594	4	0	------	----	0	----	----	----	Normal	Alive, Nal-nutrition.	
15663	0	0	Clear	Clear	++++	115	75	----	Justo-Min.	------	
15675	1	0	Clear	Clear	0	120	65	----	Normal	O. K.	
15720	0	0	Clear	Dull, rt. apex	0	155	100	----	Normal	Macerated foetus. Mother is epileptic	
15904	0	0	------	----	--------	120	85	----	Funnel	O. K.	
15970	0	0	Clear	Clear	--------	125	60	Neg.	-------	------	
16011	0	0	Clear	Clear	+	100	----	----	Funnel	Died when 2 days old	
16032	0	0	Clear	Clear	++++	126	----	----	Justo-Min.	O. K.	
16078	0	0	Systolic	Clear	++++	120	90	Neg.	Normal	O. K.	
16163	0	0	Clear	Clear	0	110	85	Neg.	Normal	O. K.	
16350	1	0	------	----	++++	114	60	----	Normal	------	
16879	0	0	Clear	Clear	0	95	65	Neg.	Normal	------	
17072	1	1	Clear	Clear	++++	97	78	Neg.	Funnel	O. K.	

2020 *Monument Avenue.*

INDICTMENT OF THE POTATO AS BEING THE EXCITING CAUSE OF POLIOMYELITIS.

By L. J. SIMONTON, M.D., Cumberland Valley, Pa.

The specific germ causing poliomyelitis is undoubtedly universal, just as are many other organisms which are pathogenic, but requires very definite and peculiar conditions for its development.

The exciting cause, if this is the case, would be of more importance than the specific cause from the standpoint of prophylaxis.

Most diseases show more or less constant peculiarities with regard to the *kind* of diminished resistance they prefer. The pneumococcus is favored by a host who *gets* his feet wet or becomes thoroughly "chilled." Many of these pathogenic organisms we know are normal and constant inhabitants of the human body, *but increase in virulence through successive transplantations*, until finally *they will attack* victims whose resistance may be ordinarily good. This might apply in the case of the germ causing poliomyelitis. While the *exciting cause* is necessary for the increase in virulence of the hitherto harmless germ, and while this exciting cause is necessary for *most* cases and is productive of epidemics—yet it is possible for direct transmission of specific cause to take place in absence of the exciting cause.

To illustrate: We know that the specific cause (whether germ or toxin), has been demonstrated in *persons not paralysed*, said cause being productive of the disease *with paralysis* when inoculated into monkeys.

A young mother, then, could by use of exciting cause, produce without paralysis in herself excretions containing a virulent prototype of an ordinarily harmless organism, and transfer this to her babe at breast, just as a typhoid carrier might transfer typhoid organisms; or a babe be inoculated with diphtheria organisms not virulent enough to cause disease in the carrier.

From the fact that *intestinal lesions* are almost constant in poliomyelitis and from the fact that all cases are not paralysed, it would be safe to assume that the intestinal tract is the *site of primary infection* and the leptomeninges and spinal cord the site of secondary infection. From the primary focus *emboli* are given off and become *thrombotic* in nervous tissue, for which the organism now shows a preference.

So much for the *modus operandi*. We must now find the exciting cause and account for all peculiarities of the disease.

The seasonal character of poliomyelitis

(July, August and September), is fairly constant, particularly in epidemics. What article of food is consumed by children during these months *which they do not get* at any other time of the year? Answer: New or early potatoes.

Why would new or early potatoes cause poliomyelitis one year and not another? Answer: The effect of season (rainfall) on the potato determines its digestibility—a large, fully matured potato which had plenty of rain during development is not a cause of intestinal irritation. A poorly developed one, as a result of drought, is a prolific source of intestinal derangement. I have seen this year more cases of intestinal derangement, both in adults and children, than I have ever seen before. I was able to trace every case to potatoes, which were raised during a drought in Alleghany County, Maryland. I personally and my whole family were made repeatedly ill until we stopped eating those raised in my own garden. They could not be made digestible by any method or amount of cooking.

The seed potatoes, from which my crop was raised, were grown by my father-in-law, who raised them in 1916. From this same batch of "Irish Cobblers" all *his* 1917 potatoes were grown. He raised his 1917 crop in Montgomery County, Maryland; I raised mine in Alleghany County (125 miles apart). He had "too much rain," I had none. His potatoes are three times the size of mine and may be eaten with impunity; mine will cause "cramps" in an adult every time they are eaten. In his county there has been no poliomyelitis. In my county it has been almost epidemic *in rural districts.*

We will then assume that the potato, being an intestinal irritant when poorly developed, is the exciting cause of poliomyelitis, and try to make our assumption explain all peculiarities of this disease.

By its very carbohydrate nature it offers an excellent media for the growth of certain organisms. This fact we know is made use of in the bacteriological laboratory.

A perfectly digested potato leaves no starchy residue—a non-digestible one does. We now have *irritation* and a *suitable culture media.* Result—Inflammation, which spells *infection* always. The universal germ has at last found proper conditions for development, multiplication and increase in virulence.

Fifty per cent. of cases of poliomyelitis occur under five years of age. The feeding of children up until the fifth year is the greatest problem of the pediatrist. More children eat potatoes than children who use milk, because the cow is not as universally distributed as the potato. Practically every child over two years of age eats potatoes.

Why do cities often escape epidemics when the surrounding country is "plague stricken?" This has been a great puzzle. Certainly the disease cannot be contagious. The answer, as I see it, is this: Most cities obtain potatoes from a large producer—often at a distance. Rural residents grow their own potatoes, which are subjected to local weather conditions. They do not cultivate, as a rule (which means conserve moisture), as do growers on a large scale, and their potatoes are often eaten by children "before the vines die down," which means *before full maturity.* Cumberland, Maryland, population 30,000, had one case this year; Alleghany County, of which Cumberland is the county seat, had almost an epidemic of poliomyelitis.

The reverse was true in 1916. Why? In 1916 Cumberland *got bad potatoes from the East*, where poliomyelitis was epidemic. Alleghany County, on the other hand, *had "best matured* crop of early potatoes in its history." In 1917 Cumberland also got her potatoes from the East, where good rains matured them properly. People of Alleghany county ate vile ones from their own gardens— the victims of a drought.

If poliomyelitis is a contagious disease, as at times seems possible, why do isolated cases spring up in the wilderness far removed from any source of contagion?

A universal organism and a universal exciting cause, would explain these seeming contradictions.

Why are more adults living in rural districts affected than adults living in cities? This has been another "puzzler." Because adults living in the city get mature potatoes, as a rule, grown by large producers, who *let their vines die down*, because they get a bigger and better potato. Adults in rural districts eat potatoes from their garden as soon as they "are big enough to scrape." I have seen this a hundred times. They may be raising a large crop for sale, but only dig immature potatoes for their own table. Oftentimes the children

are not allowed to have them because the parent knows they are "not fit to eat."

In view of all this strong circumstantial evidence, I think we have a right to suspect the potato—the victim of a drought—or eaten before fully matured. I would like to see a group of monkeys fed solely on green or badly developed potatoes. There are two objections to the experiment, one being that this animal is by nature more herbivorous than man and might digest the potato better. The other is that intestinal irritation in a monkey is productive often of a fatal intususception—to which they seem very prone.

The strongest argument against the potato is that breast fed infants are victims. These can be accounted for though by increased virulence and infection from a carrier.

I have had one patient, baby nine months old, breast fed, *except* its silly mother *gave it potatoes.* This baby was brought to my office, as I make no house calls. Another physician was called to the house next day and said it "had infantile paralysis."

I will furnish names and address if anybody wants same. I had formed my conclusions, however, before I had seen this child at all.

The seasonal (longitudinal), and other peculiarities of this disease offer a complex problem —they are all explainable, however, by bad potatoes. It is the only argument so far advanced that does shed light.

Clinical Reports.

POST-PARTUM COLLAPSE—WITH REPORT OF CASES.

By E. W. ROBERTSON, M. D., Onancock, Va.

I desire to report three cases of post-partum collapse—two of them sadly so, losing their lives—one emerging after some days.

Case 1—Mrs. W. A., Feb. 22-23, 1909, young woman, primipara, two days in labor, vertex presentation, dilatation long delayed, and not complete as late as the second day; near night (three of us being with her on the second day), delivery, forceful and by forceps, was agreed upon and after prolonged and persistent effort we finally delivered, but with injury to child's head, though with only minor traumatism to mother.

We agreed there was but little post-partum hemorrhage from mother, notwithstanding we were strictly anticipative for this in securing uterine contraction, and vaginal tamponade. Her most prominent symptom was that of "air hunger," living 4 hours, declaring just before her death, "Oh, I'm going to die," which she did very shortly afterwards.

At that time, I regarded it "shock," and this opinion was concurred in by a gynecologist and obstetrician in a large hospital in a large city, emphatically saying, "That was shock."

Case 2.—Mrs. C. D., primipara, pelvimetry demonstrating normal measurements, notwithstanding there may have been deficiency in the curve at the outlet. Husband being desirous of a live child, the point of taking her to hospital for the possible wisdom of anticipating a Cesarean, but it was finally agreed to proceed to deliver at home (greater part of the time three physicians in attendance). We experienced a difficult forceps delivery, attended with decided uterine hemorrhage for short duration, requiring tamponade and mammary infusion, and other tonics, but patient kept in a state of collapse for hours and days, though, as one of us remarked, not showing that "air hunger" of Case 1, but, instead, breathing gently and quietly and of normal rate. She recovered slowly after some days, evincing temperature, however, up to a few degrees, for days.

Case 3.—Mrs. S. J. B., multipara, aged 35. In this case, we lost both child and mother, and sorely reminded me of Case 1. This was her seventh child, four pregnancies having occurred before coming under my care. I understand these were for the most part abnormal. Her fifth child (my first experience in this lady's pregnancies) was simply a case of eutocia, having but little or no difficulty, and it was a source of congratulation all round. Her next one required forceps, but aside from that she tided along with nothing eventful. But this seventh and last proved to be the most serious and difficult, ending, as previously mentioned, in death of both child and mother. Urinalyses gave a favorable import, but she suffered from her pretty usual attendant, namely, varicose veins of the legs and pudendum, though she escaped her previous hernias. Bandaging was applied to the limb mostly affected by the varicosity. Seemingly her con-

dition toward the last was uneventful, doing her household work, and only a few hours before I was called, had she been promenading the street with a friend. Her husband had remarked to me about a week before I was called that he believed she was carrying triplets.

After midnight, September 9th, I was called, finding her with a very prominent abdomen, and I thought of twins or hydramnion. It proved to be neither. From the nature of her suffering, and degree, she required an early chloroform anesthesia, but probably not using more than two ounces by the drop method. Presentation vertex, position L. A. O. I., but it was only a few hours before I decided delivery would have to be instrumental. Calling for my son and partner, we delivered the head, the body following by manual method, but only by a most difficult and somewhat prolonged stage, the shoulders mid-transverse, extricating completely whole body with difficulty, the baby being about the largest possibly I had ever seen if I may except one of 16 pounds, from a large mulatto woman years previously.

There was not sufficient perineal laceration to require a stitch, and hemorrhage only in minimum; though the uterus dilated for a short time, we controlled and kept this down to a "cannon-ball" like contraction by Crede's method and by strict vigilance and palpation, kept it so, later applying a tamponade of 15 or more yards. But the marked symptoms evinced in her case were frequently placing her arm over her left chest, rapid breathing, and an appearance of "air hunger," though her face showed a good color up to about a minute before her death when she became cyanosed, and we soon saw she was dead. When she had somewhat recuperated, and inquired of me if the child was alive, I had to tell her it was dead, though I purposely declined to tell her unless she asked me. Our other treatment was by cardiac stimulants, digitalin, atropin, strychnine, and by bimammary infusions, but these were very slow in being absorbed. True, she was in condition of "shock," yet to my belief it was pulmonary embolism that barred her recovery. For this I have no smaller authority than Williams' Obstetrics, p. 850, second paragraph:

"Pulmonary Embolism.—This accident, usually noted not only later in the puerperium, but occasionally occurring shortly after labor, is due to the detachment of a small particle of thrombus situated in a uterine or pelvic vein, or elsewhere, which is carried to the right side of the heart and leads to more or less complete occlusion of the pulmonary artery. It is usually associated with infective or thrombotic processes elsewhere in the body, though it may occur in women who were apparently perfectly well. Davis considers it the most frequent cause of sudden death in the absence of definite disease. Under such circumstances the patient complains of intense and sudden precordial pain, becomes livid in appearance, and presents symptoms of profound dyspnoea and eventually of air hunger. These embolisms however, are not always fatal, a small proportion of the patients recovering. The treatment is purely palliative. The woman should be placed in the recumbent position; stimulants by the mouth, and salt solution subcutaneously should be administered. Inhalations of oxygen, if obtainable, are also indicated."

It is a consolation to note that our treatment was in accordance with this high authority. I feel well assured that my cases Nos. 1 and 3, were most certainly the condition narrated above, notwithstanding it nearly broke my heart in failing to save them.

Supplement:—Further light upon this subject enables me to add, that the following quotation from Emory Lanphear, M. D., of St. Louis, Mo., on "*Surgical Therapeutics*," shows that in gynecological cases the condition seems more frequent and fatal than in obstetrical ones. I quote:

"Pulmonary Embolism Following Operations. According to Dearborn, who has reviewed the work of twenty-five surgeons, thrombosis and embolism are more common after operations in the pelvis than after operations in any other part of the body. In a resume of 7,130 gynecologic operations, Schenck reports forty-eight cases of thrombosis. Krusen has recently reported five cases, four of which ended fatally, occurring in twelve years of his gynecologic practice. The symptoms in all these cases, as nearly as could be observed, were very similar. The attack was characterized by

precordial distress, severe pain and dyspnoea, associated with quickened pulse; the patient has an extremely anxious expression, gasps for breath with the aid of all the auxiliary respiratory muscles, the face becomes cyanosed; cold, clammy sweat occurs; the mind remains clear, as a rule, and death occurs in a few minutes, in spite of energetic stimulation."

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from Page* 328.)

The Intranasal Drainage of the Frontal Sinus.

By E. FLETCHER INGALS, M. D., Chicago.

The writer believes that in a large majority of cases of chronic frontal sinus disease, free drainage is all that is necessary, and that vigorous curettage is a bad practice, although gentle removal of polypi or granulation tissue with a curette, if present, would undoubtedly hasten the cure.

The furor for extensive mutilating operation on the frontal sinus has had its day, and now, more conservative intranasal drainage is a practice that is generally accepted.

The writer's attention was first called to the benefit obtained from intranasal treatment in 1893, when he succeeded in curing two cases by intranasal treatment, as neither of them would consent to an external operation.

As drainage into the nose was a prerequisite for treatment, the writer devised a burr with a safety guide to be run into the nasofrontal duct so that the duct could be enlarged permanently.

This burr made a canal six millimeters in diameter, which, however, had a tendency to contract. To prevent this latter, a metal tube was inserted into the canal. This metal tube was superseded by the spring-gold self-retaining tube now in use. This may be worn for a number of years and permits free irrigation by the patient.

The writer is convinced that the operation can readily be performed by any properly equipped laryngologist, and has placed the percentage of recovery of suitable cases as high as ninety-five per cent.

The instruments used are described, as also a detailed account of the manner of operating that the speaker has devised.

Further Report on the Intranasal Treatment of Accessory Sinus Diseases.

By ROBERT CUNNINGHAM MYLES, M. D., New York.

In the past twenty-four years the writer has had much to say concerning the intranasal treatment of accessory sinus diseases. On the fourth Wednesday in January, 1893, twenty-four years ago, he read a paper entitled the "Diagnosis of the Diseases of the Accessory Sinuses and Their Treatment."

On account of the failure to secure uniformly good results, in antral suppuration, he made use of the malar ridge and canine fossa route; and then, after due consideration had been given to the cases, with more or less unsatisfactory results, it was noted that very favorable conditions nearly always followed when the window through the inferior nasomeatal wall was not less than fifteen millimeters in diameter, and never contracted to less than about ten millimeters.

The writer continues to prefer the nasal route to the antral one for operation on the sphenoidal cells, and strongly advocates making large openings in the anterior walls.

Partial success in an attempted submucous and subperiosteal operation on the anterior wall previous to removal of the bony wall, and the utilization of the membranes for covering the lower sections of severed bone, encourages the belief that if this procedure is well carried out it will aid materially in preventing the too frequent closure of the sphenoidal openings.

In the ethmoidal cases the classical operations of removal of the middle turbinal, the floors and the median walls of the cells are carried out.

The progress that has been made in the intranasal treatment of the frontal sinus diseases centers around the methods for making permanent large openings from the nose into the sinuses.

After removal of the anterior end of the middle turbinal and the anterior ethmoidal cells, the writer uses improved designs of his outward cutting chisels for removing as much as is possible of that part of the floor of the sinus which is formed by the nasal process of the superior maxillary bone. These instruments are used with a feeling of safety, as they automatically protect the dangerous areas in this region. Several of the most useful

models are presented with this paper for your inspection.

DISCUSSION.

Dr. Emil Mayer, New York City: I would like to make an apology for the abstract editor, and would like to say that what Dr. Ingals complains of was not any garbling of any original paper, but a misstatement on the part of the stenographer of the discussion, which was very voluminous on the symposium. The original statement of the stenographer as to Dr. Ingals' standpoint was quite in accord with what he says today. The trouble lay in an attempt, within one hundred and fifty words, to make a description of an operation which omitted some quite vital and important things. I will say this, that I question whether any laryngologist would take an abstracted report in any journal and would attempt to follow any method or description of any operation. He would surely go to the writer of the paper or to the Transactions of the Association, so as to get the correct report. However, all bad things, and this certainly was bad, as Dr. Ingals and I and the rest of you also will agree, have their good ends, and the good end lies in that we have again the pleasure of hearing from Dr. Ingals just how this intranasal operation is done, and how, after ten years, he finds that the operation is still one that he can recommend to us. So, if you will forgive the abstract editor in part and the stenographer in whole, I think you will agree with me that something has nevertheless been gained.

Dr. Joseph H. Bryan, Washington: I have been able to open up the frontal sinus in the living subject, too, but not in all cases. After having gone over the anatomic relations in the cadaver so many times, I have found out that a great many irregularities exist in the accessory sinuses, particularly in regard to the frontal in relation to the ethmoid, and it makes me hesitate when I hear this procedure so ardently recommended as it has been by Dr. Ingals. There must be some difference in the cases that we have been having. I am quite sure that no such method as the doctor recommends can possibly cure such cases as I have had. Now, I have never yet operated on an acute catarrhal or an acute suppurative inflammation of the frontal sinus. I have had considerable experience in this line. All of my cases have been of a severe form of chronic inflammation, lasting a number of years. After going over his papers time and time again, and trying to bring myself to believe that I could follow out the same line of procedure, I have been timid and have gone to the external method, and whenever I have one of these cases I have come to the conclusion that such an operation is not possible to relieve such cases. Now, is it possible in a frontal sinus, with a prolongation extending far into the frontal bone and extending back into the floor of the orbit and into the external angle, by more drainage to cure a case of that kind? Now, in these chronic cases there is nearly always caries of the frontal region, and it is not possible to cut the bone out or cure the condition by simple drainage, which this method is directed to, as I understand it.

In his hands, undoubtedly, the entering of the frontal sinus is practically an easy method, but is it a safe method or an easy method for the average rhinologist? While sometimes it may be very simple for those who are practiced in doing this kind of work, nevertheless, a man must always bear in mind that he cannot know what there is inside of that sinus without doing the external operation.

Dr. Henry L. Swain, New Haven: There are a great many cases where we refuse or hesitate to make an external operation. We are not all as successful as Dr. Bryan in having our operations clean up. Certainly, I think there is a vast field for the procedures of Dr. Ingals in the medium cases, and in the severe cases we will bow to Dr. Bryan. I have had some severe cases, but a lot of cases we could get well by the internal method. This is safe and sane. Dr. Ingals has proposed one to us. I must say I have not done it. I am like Dr. Bryan, afraid to do it, from my knowledge of it from his description alone, even though it is profusely illustrated. I seem to get along with milder means than even Dr. Ingals suggests, but I do get the cases well, and do not have to do the external operation only very rarely.

I have had this winter three cases which anybody would suppose ought to require external operation, where there have been spontaneous external perforations into the orbital cavity, and one where the disease went through the front plate of the frontal sinus on to the forehead. Presumably the process was severe enough to make the bone necrotic. All three

got well simply by ordinary curettement of the frontal nasal duct and opening the abscess in the orbit. The bone of the external plate was not touched in any way at all. I have simply had good luck, but it shows the possibilities—that sometimes cases seem severe and yet do not require severe measures. There are three classes of cases—the ones that get well by simple curettement; those that require simple intranasal methods; and occasionally a case that requires the external method.

Dr. Hanau W. Loeb, St. Louis: I just want to mention a procedure which Halle published in the past two years which makes all these external operations much easier, and that is to make a flap of the mucous membrane covering the superior maxilla anterior to the middle turbinate. It takes away that thickness of the wall and also permits much more ready access to the frontal sinus.

Dr. George E. Shambaugh, Chicago: The more I see of chronic accessory sinus infection, the more I become convinced that intranasal surgery is the proper treatment for the vast majority of the cases. Most of the cases can be cured by this method, and those which are not completely cured are with very few exceptions relieved of all symptoms which would justify an external operation.

In the case of the maxillary sinus I have found that by working through the nasal fontanelle in the middle meatus one can in a few seconds' time, with suitable instruments, secure an opening one-half by three-quarter inch long and one-half inch broad, which is ample for our purpose. This can be done with local anesthesia with much less shock to the individual than an opening in the inferior meatus. The old idea that an opening in the inferior meatus had an advantage because of its location near the floor of the sinus, does not hold true, thus securing ventilation of the sinus. No irrigation afterward is required.

The frontal sinus is considerably more difficult ofttimes to secure a sufficiently large intranasal opening to permit of free ventilation of the frontal sinus, and for this reason we are able less often by intranasal surgery to bring about a complete cure of chronic frontal sinuitis; but it is the rarest exception for us to find a frontal sinus infection where anything more than intranasal surgery is justified. It has been my belief for a long time that the external operation for the frontal sinus should be a tabooed operation except in the rare cases where, in spite of painstaking, careful intracranial surgery, severe symptoms persist, indicating retention and pressure and threatening intracranial complications.

Dr. Greenfield Sluder, St. Louis: I think that when Dr. Bryan takes the stand that there are cases with a ramification of the frontal sinus under the roof of the orbit, out into the external cochlear process of the frontal bone, when it runs back to the lesser wings of the sphenoid and extending more or less swollen beyond with granulation tissue, that case will in all probability not get on by simple drainage. Dr. Roe, if I remember correctly, in 1890, stated that he had deliberately left the antrum in one case filled with granulation tissue, prevented internal drain and left the granulation tissue alone, and that the case healed. Some five or six years ago I was in a frontal sinus externally and found it not specifically enlarged or ramified, but filled with granulation tissue. The case had been operated by someone else before, and the nasofrontal outlet was blocked in solid bone. There was great headache, and the bone was so healed that it could not be handled from within, so I went into it externally and found the cavity filled with granulation tissue, but put a drain into the nose and that was satisfactory. I left the cavity filled with granulation tissue and that case healed.

I believe that the value of a satisfactory drain for all of these, whether they be frontal, ethmoidal, antral, or sphenoidal, cannot be possibly too greatly exaggerated, but there must still remain a case that requires Dr. Bryan's procedure, that must of necessity justify his ideas concerning these cases. It is difficult to tell how far it really can go. In 1890 I had an antrum that had been suppurating four to five years. The operation that was done was the old Cowper through the alveolar. I kept it open with a plug, I washed it, and in some six months it stopped suppurating. It was always reinfected by coryza and healed with a few washings. The old gentleman died a few years ago. After I learned the intranasal procedure, I offered him that and explained that it was a better procedure and would relieve him of his trouble and his plug, but he declined to accept it.

Dr. E. Fletcher Ingals, Chicago (closing the discussion): Dr. Bryan thinks that if one

cannot get into the frontal sinus, it cannot be operated on. This is quite right. However, I have been able to pass the probe into the sinus in ninety-five per cent of all chronic cases, but in about ten per cent. I was not able to get it in the whole distance at first; then I ran a burr up perhaps three-eighths of an inch, after which the probe passed easily into the sinus and the operation was completed. You notice that these probes are of different sizes and curves. If a probe will not go in with one curve, make another one; if a large one, one and one-half millimeters, will not go in, take one that is one millimeter in diameter. If one can do the operation, possibly in five per cent. of the cases an external operation may be desirable later on. I would not claim this as a cure-all by any means. The question as to whether drainage is sufficient to cure these cases or not is one that we have to determine by experience. Experience seems to show that it is sufficient in most cases, even if there are granulations. It seems to me that scraping out all of the mucous membrane in the sinus is absolutely bad practice.

I do not recall any chronic case in which I have attempted to probe the frontal sinus in which I have not succeeded—at least, after I have run the drill in for perhaps three-eighths of an inch; but I will admit that it has occasionally taken me as much as an hour to do it. But if I can get the probe in once, the next time that I put it in I can make a large opening very easily.

I believe that practically all of these cases will heal if we give them drainage, and I think that most of you will believe this.

Dr. Robert C. Myles, New York City (closing the discussion): If you are going to obliterate, you have to obliterate completely; but if you leave one small piece of mucous membrane in the sinus, you will have trouble. Patients are coming to me all the time from the general surgeons with imperfect drainage. If you notice, in my paper I mentioned the fact that they opened the sinuses and left them with a socalled polypoid condition; they simply packed them. The reason of that is that these are not granulations, but an edematous condition called granulations. They will disappear; the condition is the same as the watery eye or the postorbital eye. It is a circulatory condition and not a pathologic one. I admit, of course, that granulation sometimes comes from diseased periosteum.

But fundamentally, the crucial point in all of these cases is to get it open and maintain it open and keep it open; and the results in this way are better so far. I believe that five or ten per cent. of the cases have come to external operation, but we are now able to cure a large percentage of them by the internal method. The question of the necessity of distinction enters. I have lots of cases which heretofore I would have determined to require the external operation which are now operated by the internal procedure.

Report of a Case of Carcinoma of the Larynx Treated With Radium.

By ARTHUR W. WATSON, M. D., Philadelphia.

A physician, about seventy-three years of age, came under my care November 24, 1914. There had been increasing hoarseness for a year, without inflammatory symptoms, pain or cough; the general health was good, the general history was negative.

Examination of the larynx showed a smooth, red, sessile growth or swelling on the left side beneath the vocal cord, extending from the anterior commissure backward about one-half the length of the cord, and downward from the cord about one-half inch. It seemed to involve the under surface of the cord. Movement of the anterior half of the cord was restricted, which caused bowing in phonation. The growth was sharply defined and the other parts of the larynx appeared to be healthy. A clinical diagnosis of carcinoma (epithelioma) was made. For obvious reasons a microscopic examination was not made.

When first seen the growth was one that could, undoubtedly, have been removed by laryngofissure, but in consideration of the age of the patient and the fact that he was in favor of trying the effect of X-ray or radium, it was decided not to operate.

The radium was applied to the outside of the larynx; eleven milligrams radium, filtration one millimeter of lead and one and one-half inches of gauze, for three hours. This was repeated in February (six treatments, 198 milligram hours). March 1st the radium was increased to twenty milligrams, filtration one milligram lead, one-half inch gauze, applied for three hours. This was repeated (six times, 360 Mg. hours). March 17th began forty milligrams radium, filtration same as before, ap-

plied for three hours. Repeated (six times, 720 Mg. hours).

Various applications were made, none of them satisfactory, and it had to be abandoned. The external application of the radium again instituted in the following dosage. Forty milligrams radium, filtration one millimeter lead and one-half inch gauze, applied five hours July and August (in all nineteen applications, 4200 Mg. hours).

September 23rd, about one month after discontinuing the radium, it was noted that the growth was apparently gone, left vocal cord a little slower in movement than the right, skin inflamed over larynx.

On the second of April, 1917, the patient returned with hoarseness, which he had noticed for a month or more. Examination showed a small nodule beneath the edge of the left vocal cord near the anterior commissure, the site of the old trouble. Radium was again used, a few days later, forty milligrams, for twelve hours. The larynx was examined two weeks later. The growth was found to be smaller, the neck inflamed. April 25th, only a slight thickening remained. The voice was again almost normal. The same condition was present when last examined.

From the results that I have seen in suitable cases, and with a better knowledge of the dosage, better results may be expected, especially if the radium can be applied from within the larynx, which would be made easier by a tracheotomy.

DISCUSSION.

Dr. Robert C. Myles, New York City: It is a question to be solved, whether in the early stages of incipient cancer it is best to immediately remove the cancerous mass with the adjacent tissues, and if it recurs to use radium, or whether it is best to use radium without microscopic examination. In this connection it would seem best to consider to what extent we would advocate either procedure if the growth was in ourselves. Judging from personal experience and observation, it is my belief that the average person who has a growth, or symptoms of a growth that is probably malignant, defers the question because they do not like to have it decided that they have one, and hope against hope that nothing will be found. There is unnecessary delay caused by that attitude of mind.

As far as the secondary or tertiary conditions of cancer are concerned, it seems to me to be unwise not to use radium for the hope it offers in the relief of pain and odor and the other phenomena connected with malignancy.

I think it was Dr. Mayer who made the remark earlier in the morning that we should first try to cure the patient and leave the scientific diagnosis unsettled. On the other hand, this is not conducive to progress; again, I do not know whether we can improve the physical conditions of a case which experience has shown us is malignant, by microscopic examination, nor do I see what the chances are of it being nonmalignant by resorting to such examination.

Dr. Henry L. Swain, New Haven: I am very glad that we have heard this paper, first because it was a model in the way it presented the dosage, method of treatment, length of treatment, etc., and secondly, because it left us with a spirit of hopefulness.

This is again a case of the old, old story. We went through all this with the X-ray. We had in our hands a powerful means the possibilities of which we knew nothing, and we learned by exchanging experiences in the various meetings all over the country that X-ray burns were produced, that we must use a filter, that we had to have adequate dosage, if we were going to get results. We are now doing the selfsame thing with radium. In exchanging these experiences now, it seems as if we ought to come to some conclusions. I think one thing is clear—that we should not putter around with other means, and if we are going to use radium, we should get at it early. Inadequate dosage is worse than nothing. On the other hand, we must not use such a tremendous dosage that we either kill the patient or the surrounding tissues.

Dr. E. Fletcher Ingals, Chicago: I am under the impression that the dosage here is quite as important as in giving strychnin; that is, if you give too large a dose it will do a great deal more harm than if nothing had been given. If we read the reports of the men who have used radium, we will find that there has been in some cases great destruction of tissue from which some patients have finally died. Some patients can tolerate larger doses than others. It appears to me that radium, X-rays and sun's rays act practically in the

same way; they burn in every direction where they can reach, unless properly screened. All the weaker tissues burn out first; but if the dose is a little too strong, the normal tissues will burn out at the same time. If this is correct, then the dosage is by far the most important thing; it must be worked out carefully. I tested each individual patient—a small dose at first, and repeated, according to its effects.

Dr. Arthur W. Watson, Philadelphia (closing the discussion): What I wished to bring out was the question of dosage. I am of the opinion that if the dosage is too heavy, so that the normal tissues around the growth are destroyed, cicatricial tissue is produced in which the malignant disease may more readily be reproduced. It seems to me that this may be the reason for failure to cure the disease in some cases. But I believe the best way of getting at the proper dose is by regarding what has been done in each case, instead of considering one application of radium the same as another.

(*To be Continued.*)

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Diseases of the Skin. By RICHARD L. SUTTON, M. D., Professor of Diseases of the Skin, University of Kansas School of Medicine; former Chairman of the Dermatological Section of the American Medical Association, etc. Octavo of 1,021 pages, with 833 illustrations, and 8 colored plates. Second edition, revised and enlarged. St. Louis: C. V. Mosby Co. 1917. Cloth. Price, $6.50.

Although this work was issued originally only little more than a year ago, the reception was so cordial that the author has found it necessary, in order to meet the demand, to publish a second edition. This has given him the opportunity to supply supplemental matter in such instances as seemed advisable, as well as to cover the important literature that has since appeared, and to eliminate minor errors. Gangrenous Balanitis, Atrophy of the Mucous Membrane of the Tongue and Mouth, and Atrophy of the Fatty Layer of the Skin are among the new topics considered, while the article on Perleche has been re-written, and that portion of the one on pediculosis which deals with treatment has been considerably amplified. Likewise, one hundred and forty new illustrations have been added. The entire subject of dermatology is presented in a comprehensive, yet, at the same time, concise manner. As the author states, a treatise of this character cannot well be based entirely on the personal knowledge and observations of a single individual, and for this reason he has drawn from the publications of other writers whenever he considered the material appropriate, giving proper credit. The methods of presentation are those he has found most effective as a teacher, while the majority of therapeutic measures recommended are based on his own experience in private and dispensary practice. The book strikes us as in every way eminently satisfactory.

Editorial.

Soldiers to be Graded Psychologically.

Each man of about 160,000 in four National Army cantonments will be given an "intelligence rating" by psychological examinations conducted by the section of psychology of the Surgeon General's Office. A committee appointed by the American Psychological Association last April on the psychological examination of recruits prepared sets of examinations, involving scores of tests, to enable the examiners to grade each man according to his intelligence or manual skill. Each man's record will be placed at the disposal of his company commander to assist him in picking men for promotion or for special lines of work. They will, however, be free to use their own judgment, for it is intended that the ratings shall merely assist them in such selections as they are called on to make. The psychological staff, which will make tests at the cantonments, will comprise four officers and six civilians.

The first test is a literacy one, and shows only which of the men can read and write. The illterates are wthdrawn to be given examinations for manual skill. Those who can read are given various tests to determine their mental quickness. Those who do not get good ratings on these tests are re-examined in a

group to determine whether they are merely slow or are of a low grade of intelligence. Any who do not make a satisfactory mark are grouped with the illiterates with whom they are examined for manual skill and ingenuity. After further individual examination, those who receive the poorest ratings are likely to be considered for discharge or suited only for manual work under supervision. The aim of these examinations is to determine native intelligence and ability, not schooling—to ascertain what a man can do with his head and hands and not what he has learned from books. These examinations will help medical officers quickly to discover and sift out the extremely incompetent, and thus prevent the inefficiency and injustice resulting from putting men in places which they are not qualified to fill.

Smyth County (Va.) Medical Society.

Despite the continued unfavorable prognosis as to the viability of county medical societies, the Smyth County Medical Society still lives and thrives. Every doctor in the county is now a member and two-thirds of them attended the annual meeting held October 17, in Marion, when they met in the offices of Dr. Z. V. Sherrill in the best meeting of their history.

Dr. R. L. Shuler, of Marion, read a paper on "The Use of Pituitrin in Obstetrics," and then followed a statement by each member as to his experience in the use of this agent, and remarks on obstetric practice in general. It was altogether a most interesting discussion of a practical subject and seemed to indicate that all these doctors use pituitrin and find it lessens the need for forceps. Other subjects of local interest were discussed.

The Society had accumulated a surplus from unexpended annual dues and, at the May meeting, it was decided to give a dinner with this fund, to which each member was expected to come and bring his wife or a lady friend, the object being to let the doctors and their families get better acquainted and develop social life among themselves. When the time came, Dr. and Mrs. Sherrill assumed this duty and invited the members to become their guests at six o'clock dinner. At the appointed hour, twenty persons sat down to a dinner which was served in a style that would have done credit to any home for any occasion. After dinner, the time was spent until eleven o'clock in listening to music, first by a five piece orchestra and later a victrola, and in relating amusing happenings and incident such as come only to doctors and their wives. At the close of the evening, all present felt that this social gathering had added a desirable feature to the county society meeting. It seemed to show that while a county society will not run itself it can be made to "work" in most counties by a little coaxing, and should get better as it grows in years.

At the meeting, Dr. Z. V. Sherrill, Marion, was elected president; Dr. E. A. Holmes, Broadford, vice- president, and Dr. E. E. Neff, Chilhowie, secretary-treasurer. Drs. S. W. Dickinson, Marion, and R. E. Hughes, Saltville, were elected delegates to the Medical Society of Virginia, for the Roanoke meeting.

The above has been taken from a personal letter to us from Dr. Dickinson. It was so interesting that we felt doctors in other counties would like to know of the good work being done in Smyth County.

The Doctor's Contribution.

In this world's war, your service is absolutely essential. The medical officer bears the same relative position in war as in peace in that he is a conservator of health and life. Through his skill, thousands of men receiving slight casualties, are returned to the fighting force, thus conserving the physical strength of the army. In Base, Field and Evacuation hospitals, doctors are as essential as in civil institutions, where the sick and injured are cared for.

As regimental surgeons and on transports and in the Sanitary Corps, must the Government have doctors if we are to terminate this war successfully. Your contribution to your country at this critical time is *your service* which you can give for the period of the war as an officer in the Medical Reserve Corps. That your country needs you, is best answered in that she is calling you *now*.

The fighting forces are constantly expanding and such expansion calls for additional doc-

tors and even with the troops now in training and under mobilization (about two million) the Surgeon General has not enough doctors to fill the requirements. Secure an application blank at once; fill it out and present it to your nearest Examining Board. Do not live to regret that you did not have a part in your country's great struggle for democracy which means *Liberty*.

Medical Society of Virginia.

This meeting for October 30 to November 2, inclusive, has been so extensively talked up and advertised that we feel sure no member will be kept away except by pressing duties. If you cannot be there for the whole time, be on hand for as many days as possible. A mountain auto trip to the Catawba Sanatorium has been planned for the morning of the last day. The symposium on "Medical Military Preparedness" will be an unusual and especially interesting feature of the Roanoke meeting.

The American Association for the Study and Prevention of Infant Mortality

Held its eighth annual meeting at the Hotel Jefferson, this city, October 15-17, under the presidency of Dr. William C. Woodward, of Washington, D. C. There were present about 300 delegates from all parts of the United States, including many prominent doctors and laymen who are intetersed in maternal and infant welfare. In the absence of Dr. Greer Baughman, president of the Richmond Academy of Medicine and Surgery, Dr. C. C. Coleman, vice-president, welcomed the visitors to the city on behalf of the Academy. The program was arranged with special reference to problems that are arising in infant and maternal welfare work as a result of war conditions, and many interesting discussions were had. Dr. McGuire Newton, chairman of the local committee on arrangements, and his committee, looked after the comfort and pleasure of the visitors at all times.

Newark, Buffalo, Asbury Park and Chicago are cities bidding for next year's meeting. Officers elected are:—President, Mrs. William Lowell Putnam, Boston; president-elect, Dr. Philip Van Ingen, New York; vice-presidents, Drs. Isaac A. Abt, Chicago, and W. S. Rankin, Raleigh, N. C.; secretary, Dr. H. F. Helmholz, Chicago; executive secretary, Miss Gertrude B. Knipp, Baltimore. Among directors chosen are Drs. McGuire Newton, Richmond; L. T. Royster, Norfolk, Va.; Jos. S. Wall, Wall, Washington, D. C., and W. S. Rankin, Raleigh, N. C.

American Public Health Association.

At the forty-fifth annual meeting of the Association in Washington, which concluded its sessions October 20, the principal subjects discussed were big health problems that have been greatly intensified by war conditions. Major Pearce Bailey, M. R. C., told of the great mental drain on men in the present war, caused by the furious bombardments and attacks. He stated that nervous and mental disabilities are responsible for one-seventh of all discharges, while wounds are responsible for one-third. France and Belgium were not prepared for these conditions and almost immediately after the war started, had to reconstruct their medical organiation to care for these cases. England has fully one-fourth of her neurologists and psychiatrists serving in the medical corps. Surgeon General Gorgas, cognizant of these conditions, is preparing to meet the situation.

In the election of officers, Dr. Charles J. Hastings, Toronto, was elected president; Dr. George M. Kober, Washington, first vice-president; and A. V. Hedrich, Boston, secretary. Dr. Powhatan Schenck, Norfolk, Va., was elected a director to fill the vacancy caused by the resigntion of Dr E. C. Levy, former chief health officer of Richmond. Drs. W. A. Plecker, Richmond, and Brownley Foster, Roanoke, Va., were elected to the advisory council. Among other Virginians in attendance were noted Drs. E. G. Williams, W. A. Brumfield and Roy K. Flanagan, all of Richmond.

Dr. C. E. Critcher,

Of New Church, Va., who offered his services to the English army last winter before the United States declared war, has received his commission as first lieutenant and has sailed for England.

Dr. D. L. Shaver,

Formerly of Maurertown, Va., is now located at City Point, Va.

New Hospital in Roanoke.

Dr. W. S. Slicer, of Roanoke, Va., has recently purchased and had remodeled for a hospital the former Eagles Home, in that city. The building, which is very attractive in appearance, is located at the junction of the southwestern residential and business sections and was opened for occupancy the middle of this month.

Dr. Linwood H. Justis is associated with Dr. Slicer and they will have offices in the hospital building.

Dr. G. S. Hartley,

Eagle, W. V., was a visitor in Richmond the middle of October.

Do Not Grow Weary in Well-Doing.

The fight against tuberculosis is so long drawn out that there is a fear that the people and workers may grow discouraged. The State Board of Health estimates that there are between 20,000 and 30,000 cases in Virginia; and the number of deaths from tuberculosis last year reached a total of 4,000. What a record for a disease that is considered preventable and curable! The report of the draft for the army gives some idea of conditions in Virginia. It is possible there will be 1,000 men rejected by the Boards. There is not a single vacant bed in the State, except in two alms houses. Shall these men return to their doctors for advice and be told there is no place in the State where they may be treated?

It is planned to use some of the proceeds from the Red Cross Seal Sale for establishing a War Tuberculosis Campaign Fund for the maintenance of rejected men, tuberculous soldiers and their families. This sale begins shortly. This is simply intended as "a word to the wise."

Dr. Hamlin Wounded.

First Lieutenant Percy G. Hamlin, of the medical reserve corps in France, was wounded October 5., while doing service with the British forces. Lieut. Hamlin is a Richmond boy and graduated little more than a year ago at the Medical College of Virginia, at which time he was appointed to the Philadelphia General Hospital. He was accepted for service in August of this year.

Married—

Dr. Hugh T. Nelson, Jr., Charlottesville, Va. and Miss Edith Rankin, Keswick, Va., October 6. Dr. Nelson has joined the medical reserve corps of the army.

Dr. Dennis M. Thomasson and Miss May Payne, Lynchburg, Va., October 6.

Dr. George Washington Skaggs, Greenville, W. Va., and Miss Emma Skeen Surber, Hinton, W. Va., October 10.

Dr. Cropper Whitney Holand, of Accomac County, Va., and Miss Ruth Franklin Button, Jeffersonton, Va., September 29.

Dr. and Mrs. Josiah Leake,

Of Deanes, Va., have gone to Ashland, Va., where they will make their future home.

Dr. Bernard H. Kyle,

Lynchburg, Va., who has joined the medical reserve corps, has been given the rank of captain and has been given detached orders for a course of intensive training in orthopedic surgery.

The Southern Medical Association

Will hold its eleventh annual meeting in Memphis, Tenn., November 12-15, 1917, and the meeting promises to be a scientific treat as well as pleasant socially. This is the second largest medical organization in the country having grown to more than 6,000 members in seven years. The Atlanta meeting last year had an attendance of more than 1,800, and the Memphis meeting promises to be as large and enthusiastic. Whether a member of the Association or not, a hearty welcome awaits you in Memphis. It is to be a patriotic meeting with innovations introduced. Some of the principal subjects to be discussed will be war medicine and surgery; railway surgery; malaria and pediatrics. There will be other subjects in plenty for those interested along other

lines. Any of the following officers will be glad to answer inquiries: President, Dr. Duncan Eve, Sr., Nashville, Tenn.; secretary-treasurer, Dr. Seale Harris, and business manager, Mr. C. P. Loranz, both the latter of Birmingham, Ala.

Dr. and Mrs. C. L. Bailey,

Quinton, Va., took a motor trip to Richmond, the middle of October.

Dr. C. M. Hatcher

Lynchburg, Va., who graduated this year from the Medical College of Virginia, has been appointed an assistant surgeon in the U. S. Naval Reserve Force, and is now at the St. Helena Naval Training Station.

U. S. Hospital Units in Service with British.

When the Germans began their ruthless sinking of hospital ships, and it became apparent that it would be unsafe to try to transport wounded British soldiers and German prisoners to England, there was a hurry call for the establishment of more base hospitals in France. America was asked for assistance and six units were rushed across to Europe without stopping for full equipment. They immediately took over large base hospitals and, although they were handicapped for a time by lack of supplies, their institutions soon ranked among the best. The British realized fully the sacrifices that were made by the Americans, many of them eminent surgeons, and they assisted in every way in giving the Americans the benefit of their three years' experience.

The six base hospitals, conducted by Americans, have beds for about 1,500 patients each, and there are many times when they are filled to overflowing, as they have to care not only for the wounded allies, but for Germans as well. In addition to their other work, these hospitals have furnished some ten surgical teams for service in casualty clearing stations near the firing line. These teams usually consist of a surgeon, an assistant, a nurse and an orderly. Surgeons in charge of these base hospitals are Drs. Crile, of Cleveland; Cushing, of Harvard; Brewer, of New York; Hartè, of Philadelphia; Murphy, of St. Louis, and Besley, of Chicago.

Dr. E. R. Hart

Has returned to Wilmington, N. C. after a short visit to relatives in Suffolk, Va., his former home.

Dr. James A. Grizzard,

Drewryville, Va., has been elected president of the Bank of Drewryville, which has just been incorporated there.

Dr. A. L. Herring,

Richmond, who has been connected with Grace Hospital, this city, but is now a member of the Medical College of Virginia Base Hospital, has been ordered to the University of Pennsylvania for a course in brain surgery.

Dr. J. Wood Jordan,

Who left in August to do hospital work in France, we understand is returning to his home in Ashland, Va.

Special Training in Orthopedic Surgery for Military Surgeons.

For those who are or expect to become identified with Medical Officers' Reserve Corps, who have done only general surgery but who wish to take up orthopedic surgery in the army, a course of intensive instruction in the fundamentals of orthopedic surgery, as related to military service, will be given at various universities, for a period of about six weeks. Further information may be obtained on this subject from Major E. G. Brackett, director of Department of Military Surgery, Surgeon General's Office, Washington, D. C.

Division of Fees Prohibited.

The Colorado Legislature recently passed a bill prohibiting the division of fees by physicians, surgeons, chiropractors, midwives or chiropodists.

The American Association of Obstetricians and Gynecologists,

At its meeting held in Newark, N. J., the middle of September, elected Dr. Albert Golds-

spohn, Chicago, president; Dr. Wm. Seaman Bainbridge, New York, first vice-president; and re-elected Dr. E. G. Zinke, Cincinnati, secretary.

Number of Commissions in Medical Reserve Corps.

The Louisiana State Committee of Medical Defense, Medical Section, has issued a bulletin giving a list of doctors of that State who have volunteered for service in the Medical Reserve Corps and other news of interest in this connection. A list of the forty-eight states and the District of Columbia is given with the medical population of each and the percentage of commissions in medical reserve corps recommended by the surgeon general to September 1, 1917. In this list, Virginia had the thirty-ninth place in the percentage of doctors who had volunteered for service—a big contrast to her place in the Liberty Bond work. In proportion to her medical population, Arizona had the highest rate of medical men who had volunteered, or 16.6 per cent.; Pennsylvania, second place with a rate of 15 per cent., and Wyoming the lowest place with only 4 per cent. On a whole, the western and center west states have made the best showing. Florida has the highest percentage of any of the Southern States.

Dr. D. O. Foley,

Mt. Jackson, Va., had the misfortune to lose his office in a large fire which occurred in that place October 18.

Dr. George B. Barrow,

Clarksville, Va., has been a recent patient at Stuart Circle Hospital, this city.

Drs. Wm. T. and St. Julien Oppenhimer,

Of Richmond, were recent guests at the home of their mother near Fork Union, Va.

Dr. and Mrs. George Parrott

Have returned to their home at Fork Union, Va., after a short stay in Albemarle County, Va.

Dr. L. E. Cockrell,

Reedville, Va., was among the visitors at Richmond this month for the State Fair.

New President Inaugurated at L. I. College Hospital Medical School.

Dr. James Chidester Egbert was formally inaugurated into the office of president of Long Island College Hospital Medical School at exercises held in Brooklyn, October 9.

Eradication of Hookworm Necessary as Patriotic Measure.

Florida Heatlh Notes states that the necessity for hookworm eradication in Florida is emphasized by the fact that of feces from 350 Florida National Guardsmen, at Black Point, examined by the State Board of Health Laboratory, 43 per cent. indicated the presence of hookworm disease. This shows the need of the eradication of the disease in all states where it is present, especially a number of Southern States, as a health measure as well as a patriotic duty.

Dr. and Mrs. W. H. Landon White,

Knoxville, Tenn., stopped off for a short stay with releatives in this city recently, en route to New York City for a visit.

Dr. Leslie B. Wiggs,

Of this city, who has joined the U. S. Navy, has recovered from an operation he recently underwent at Johnston-Willis Sanatorium, this city, and returned to his post of duty.

The Dinwiddie County (Va.) Medical Defense Committee,

Of which Dr. William F. Drewry, Petersburg, is chairman, held a meeting October 16, at which the principal speakers were Maj. J. Garnett Nelson and Lt. Jos. T. McKinney, both of Richmond and now connected with the medical officers reserve corps. They spoke in explanation of the urgent need of surgeons and physicians for the army and a call was made for volunteers for the medical reserve

corps. Several doctors were accepted for the service.

Maj. Nelson and Lt. McKinney are making a tour of the State addressing doctors on the need of volunteers for the medical service and much interest is being manifested.

Dr. Montie L. Rea,

As captain of the Charlottesville, Va., team, early this month attended the annual fall tournament of the Appalachian Golf Asociation, held in Roanoke, Va.

Lt. W. R. Weisiger,

Until recently of this city, but now surgeon of the 307th infantry, Camp Upton, Long Island, was here on a visit to relatives this month.

Tuberculosis Reportable in Illinois.

According to regulations recently issued by the Illinois State Health Department, physicians, health officers, attendants, householders and parents who have knowledge of a known or suspected case of tuberculosis in that State, are required to report it to local health authorities.

Dr. and Mrs. William J. Bell,

On October 16, celebrated their golden wedding anniversary, in their home near Bristow, Va.

Dr. Byron Eakin,

Of Union, W. Va., was a recent visitor at the home of his parents in Blacksburg, Va.

Richmond a Training Center for Public Health Nursing.

The American Red Cross has chosen the School of Social Economy of this city as one of the training centers at which scholarships in public health nursing will be offered this Fall. To encourage trained nurses to take these courses and qualify for public health work, a series of scholarships of $250 each have been established at various schools.

Since the demand for public health nurses in the Southern States is far in excess of the supply, the Red Cross is seeking especially to interest nurses of the South in these courses. Applicants must be registered nurses and must have had experience in the field, or have unusual ability and initiative.

Dr. H. U. Stephenson

Has returned to his home at Toano, Va., after a short stay in this city.

Dr. S. P. Conduff,

Draper, Va., was named one of the general committee representing the four banks in Pulaski County, Va., to take charge of the second liberty bond issue in that county.

The Southern Gastro-Enterological Association

Will hold its next annual meeting in Memphis. Tenn., November 12, 1917, under the presidency of Dr. J. C. Johnson, Atlanta, Ga. Dr. Marvin H. Smith, Jacksonville, Fla., is secretary-treasurer. All members of the profession are invited to be present.

Two Journals Combined.

Owing to the fact that the editor, Dr. William Edward Fitch, has been appointed a major in the U. S. Army, *Pediatrics*, which has for a number of years held an important place in its specialty, will no longer appear as a separate publication, but has been incorporated into the *Medical Review of Reviews*. Beginning with January, however, the *Medical Review of Reviews* will contain a special department devoted to Pediatrics. Other improvements are also scheduled for the coming year.

Dr. and Mrs. Courtney Edmond,

Clifton Forge, Va., left for a visit to New York City about the middle of October. While there, Dr. Edmond will take a post-graduate course in medicine.

Dr. W. J. Chewning,

The Plains, Va., who has been on duty in the medical reserve corps of the army, we understand has resigned his commission and will return to Fredericksburg to resume the practice of medicine.

Dr. E. Le Baron Goodwin,

Who has recently located in Ashland, Va., was in Williamsburg, Va., the middle of this month to attend the marriage of his brother.

Dr. and Mrs. N. Bruce Edgerton,

Columbia, S. C., have been visiting relatives in Suffolk, Va.

Dr. Elisha Jenkins,

Natural Bridge, Va., Republican nominee for House of Delegates from Rockbridge County, addressed a mass meeting held in Buena Vista, Va., October 10.

Almost No Communicable Intestinal Diseases in Navy.

Surgeon General Braisted, of the Navy, has reported that typhoid fever and other communicable intestinal diseases have been practically eliminated from the Navy by modern preventive methods, which is in marked contrast to conditions during the Spanish American War, when these diseases caused widespread damage and carried with them a high mortality rate. The general health of the Navy is excellent and the training of personnel is not being interferred with at any of the training stations by the presence of communicable diseases. Records of the Bureau of Medicine and Surgery show that fewer than 10 cases of typhoid have been reported since the present war began. Diseases which have caused the greatest inconvenience are mumps and measles, and these are associated with a low mortality rate or none at all.

Dr. N. Thomas Ennett,

Of this city, announces the removal of his offices to The Professional Building, Fifth and Franklin Streets.

Clinical Lectures on Diseases of Skin.

The Governors of the New York Skin and Cancer Hospital, Second Ave., corner of 19th Street, announce that Dr. L. Duncan Bulkley, assisted by the attending staff, will give a series of Clinical Lectures on Diseases of the Skin, in the out-patient hall of the Hospital, on Wednesday afternoons, beginning November 7, 1917, at 4:15 o'clock. Lectures will be free to the medical profession upon presentation of their professional cards.

Stenographers and Typewriters Wanted.

The U. S. Government is in urgent need of thousands of typewriter operators and stenographers and typewriters. All who pass examinations for departments and offices at Washington, D. C., are assured of certification for appointment. Women especially are urged to undertake this work. Examinations for departmental service, for both men and women, are held every Tuesday, in 450 of the principal cities of the United States, and applications may be filed with the U. S. Civil Service Commission, Washington, D. C., at any time. Entrance salary ranges from $1,000 to $1,200 a year, and advancement of capable employees to higher salaries is reasonably rapid.

Wanted—Resident Physician at Petersburg, Va., Hospital. Salary, $600. per annum, room, board, laundry uniform. Usual medical and surgical experience offered. About 1,500 patients annually—1,000 surgical and 500 medical and obstetrical cases.

For further information address Miss Mary Paul Roper, President, or Dr. J. Bolling Jones. (Adv.)

Obituary Record.

Dr. James Henry Garlick

Died in Staunton, Va., Otober 7, after a lingering illness. He was born in New Kent County, Va., seventy-five years ago, and graduated from the University of Virginia in 1865. He was an assistant surgeon in the Confederate States Army. Dr. Garlick had served as assistant physician at the Eastern, Central and Western State Hospitals, having only recently resigned his position at the last named institution on account of failing health. He was an honorary member of the Medical Society of Virginia. The interment was made in this city.

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MEDICAL MEN AS SOCIAL FACTORS.*

By GEORGE A. STOVER, M. D., South Boston, Va.

Fellows of the Medical Society of Va., Ladies and Gentlemen:—

It was not my privilege to be present at the meeting in Norfolk, one year ago, when you conferred on me the highest honor in your gift, the presidency of this historic organization; hence, I welcome this, my first opportunity, to say that I am deeply grateful for the extreme kindness which prompted you to thus favor me. I take it that your act could not have been predicated upon any peculiar fitness possessed by me for the honor, but rather upon your possible conception that I had been of some service to you and, incidentally, perhaps to the public. I am grateful for any humble service I may have been privileged to render but cannot escape the conviction that my service has not been commensurate with your reward. It would have been more to my liking if I could have won this honor at a later period in my career by a riper experience, a fuller service, or by some definite scientific achievement in medicine, but such has been denied me.

In accepting the gavel and declaring this meeting open, I desire first to say that we are glad to welcome so many of you here tonight. We especially wish the ladies and gentlemen of the laity to know that they are welcome. We accept your presence here as an assurance that you like and respect us, and, further, that you realize that the important questions that interest and concern us are also of interest and concern to you. I would go even further than this and say that our responsibilities and opportunities are mutual if not identical as related to many of our social problems, as we hope to point out later on. You will therefore be welcome at all times while we are with you to come and learn something of what we are doing, what we propose to do, in order that you may catch our point of view.

We know the public has sometimes accused us of being a medical trust. We do not resent this charge, nor admit it as true. We reply, however, that, in order to render efficient service and exert our collective influence as public servants, it is necessary for us to have an organization which, to the casual observer, may have some of the characteristics of a trust in order that we may meet the trust imposed by you.

We are proud of the way in which this Society has met the public trust in the past. Let us consider for a moment its record. It was organized in 1870 by 92 devoted, far-seeing doctors and, from that small beginning, has grown to its present size, when its membership includes nearly every ethical doctor in the State. It has existed not so much for the benefit of its own members as it has for the benefit of the public whom it has ever taken into its confidence and whose interests it has always considered. It has held aloft the high ethical ideals of our cult and used its influence against any infringement on these ideals by irregulars, quacks and charlatans. It has stood the test of time, having for nearly half a century measured well up to the opportunities for service to society, which an ever-increasing knowledge of medicine has created. It has fathered nearly, if not every law on our statute books, having for their purpose the elevation of the standards of medical education and medical efficiency on the one hand, and the protection of the public on the other. Notable examples of this are to be found in the act creating the Anatomical Board, the Medical Examining Board, the original State

*Address of the President, delivered before the Medical Society of Virginia, at its fotry-eighth annual meeting at Roanoke, Va., October 30-November 2, 1917.

Board of Health and our present medical act which defines the practice of medicine and makes clearer the distinction between reliable, scientific, ethical practitioners and the commercial, advertising charlatan. We may also claim credit for having educated the laity as to the value of applying our knowledge of preventive medicine in public health work, thereby creating the public sentiment which culminated in the legislative act of 1908 providing for the reorganization of the State Board of Health and the creation of our most efficient department of health. All credit and honor is due a great layman, Capt. W. W. Baker, of Chesterfield County, who focused the public sentiment and conscience on this important matter and conducted with great vigor the fight which put this law on our statute books. This Society, as an organization and through the influence of its prominent public spirited members, has played an important part in the development of our State institutions for the care of the insane, the mentally incompetent, epileptics, moral delinquents, as well as our penal institutions. In fact, it may not be immodest for us to say that the Medical Society of Virginia is an institution of no mean importance in Virginia.

Emerson has said "An institution is the lengthened shadow of one man." This Society is the lengthened shadow of some of the noblest and best men this Commonwealth has ever produced, notable among them being Dr. Landon B. Edwards, who was its secretary from the time of its founding to the day of his death. "They have labored and we are entered into their labors;" where they left off we must take up the work. Is it strange that we should have a feeling of awe as we stand in this place where they have stood and consider the responsibilities imposed to live up to their high standards and our present and future opportunities? The majority of the members of our profession are general practitioners, the men who do the drudgery of the practice of medicine, serving mostly in the small towns and rural sections, men who love their work, who love humanity, who have time and opportunity for observing people and social conditions, who study and keep fairly well up in their work, the men who refer patients to city specialists who get rich, while they themselves seldom acquire more than a competence. They constitute the bone and sinew of our Society and the bulwark of the State in its public health work. I am not ashamed to admit that it is with this large class of doctors that I hold fellowship. May I not, therefore, presume to speak for them, thoughIconfess a sense of inability to do so?

One of the handicaps of being President of this Society is that the honor carries with it the implied obligation to promulgate some new theory or doctrine, or indulge in a philosophical discussion of some abstract theory or proposition relating to our work. Such subjects have been presented in times past in many forms by many men more capable of presenting them than I could ever hope to be. I will, therefore, spare you the ordeal of such a discussion. In assuming to speak for my professional brethren, I will attempt briefly to emphasize what I conceive to be some of our most obvious present day social problems and our relation to them.

A recent writer has tersely expressed the idea of the social relation by saying "We are all on the good ship Earth, which is sailing through space for an unknown port under sealed orders." As passengers on this ship from the decks of which we have been evolved, our associations are necessarily vital and intimate. In fact, each individual is a part of the social structure. The goal of the human race is obviously the attainment of the ideal, the perfect life. History is but a record of the incessant struggle that has been going onward and upward through the centuries. It is not always profitable to look backward, but it may give us clearer insight into our present duties and opportunities to note that medical science has played an important role down through the ages in the development of society from its prehistoric and ancient state of ignorance to this good hour. Ancient civilizations had their doctors, one of the most notable being Moses, the great law-giver, who was really a great sanitarian. Were he living today, doubtless he would be a leading light in the profession. The scientific knowledge possessed by him and known to the higher civilizations of ancient times seems to have vanished from the earth for a time, to be followed by the Dark Ages for the history of many centuries shows that pestilence stalked the earth almost unmolested. But if science went into eclipse for a time, it was only to return and renew the struggle with the result that it is gaining the mastery, and

practically driving from the earth many of the diseases that formerly decimated the human race even more than wars and is robbing many others of their terrors. Science may, however, be said to have only struck its stride in this past generation, so that it bids fair to win even greater victories than ever before. Notwithstanding the progress that has been made, in overcoming communicable diseases and improving sanitary conditions, we still have much to do. Poverty, ignorance, carelessness and disease create and will continue to create problems and difficulties, the solution of which and the overcoming of which will, for years to come, engage the best thought and effort of not only ourselves but of society as a whole. The thought I wish to bring to you is that we are under obligation personally and collectively to use every means at our command for the proper handling of the problems that confront us at this present time, by serving our State and doing our bit in our several communities.

These are truly strenuous times in which we are living, more strenuous perhaps than we realize, more pregnant with possibilities of good and evil than we can imagine. We are as a people confronted by foes within and foes without. The foes within with which we have to contend are communicable diseases and their allies—ignorance, poverty and carelessness. The part we as physicians are called upon to take in overcoming them might be designated as the peaceable pursuits of medicine. The foe without that calls us to combat is the threat of Prussianism. As a nation, we have taken up the gauge of battle in the interest of humantiy. We are called to serve under the flag, which is the flag of liberty, to which the whole world is looking for deliverance. Many of our profession will be called to service as a part of our wonderful military organiation that is being built up, taking up as it were the military pursuits of medicine. We will not undertake to discuss this latter phase of the subject but will leave it to the distinguished speakers who are to be with us tomorrow night.

In the performance of our part as doctors in this crisis, our forces will necessarily be divided; one part serving in the civil capacity, the other in the military capacity. Those who stay at home will have to carry on the work that all of us have been doing heretofore. We should remember that those serve as well who diligently labor to conserve the welfare of their several communities as those who go to the front. We need to catch the idea that this is a time of personal opportunity for service, that we should not view the situation as one by which we are to profit, but rather regard ourselves as guardians of the public health, as being largely responsible for keeping our people well and efficient, for the war must be won by efficiency at home as well as in our army and navy. This function is peculiar to doctors, who annually deprive themselves of many dollars in fees by its conscientious performance. We, therefore, by virtue of our special knowledge and training, are doubly responsible and should diligently strive to do our duty. It is incumbent on us always to be fit examples of right living and responsive to the needs of humanity about us. We should do all in our power to educate the people with whom we come in contact as to the importance of public health work, for education is the first requisite in overcoming the difficulties confronting us. The doctor has long been idealized in song and story, possibly deservedly so. A profound sentimentality now and perhaps always will be attached to our service to humanity, but an intelligent society is reaching the point where it demands efficient service as our only valid claim to confidence. We need, therefore, to consider very seriously the part we are to play. To those of us who are to remain at home, what an opportunity! How proud we should be of our fellows who enlist in the medical service and go to the front to look after the health of our soldiers or to succor them when wounded! How eager we should be to fill as best we may the gaps made by their going.

There is no more effective way in which to serve our State at this time than by giving our active support and co-operation to the State Department of Health, and local Boards of Health in the war against communicable diseases. Every doctor is, in fact, a fundamental part of the health organization, both of his immediate community and the State. By giving prompt, energetic attention to cases of communicable diseases coming under our care, reporting them to the proper officials, and applying the means of preventing their spread, we will do much toward conserving the general welfare. At the same time we should aid in every way possible in convincing people of the value of preventive medicine and sanitation. We wish to impress upon the laity that this

great work is as much theirs as it is ours. We are only the servants of the public and can go no further than their approval and support make possible. It is apparent that the average citizen does not realize that the work being done by our health authorities is of greater economic value, whether measured in dollars, human lives or general efficiency than that of any other department of the government. Every intelligent person should grasp the fact that, as members of society, it is their duty to assist in building up a public sentiment which will demand that the State give more liberal financial support to this cause.

We have already accomplished much during the nine years since our Department of Health was organized, as the following figures clearly show: For the year 1908-9, the estimated number of cases of typhoid was 14,398, whereas for the year 1915-6, the estimated number was 6,555—a reduction of 7,843 cases. The number of new cases of tuberculosis estimated for the year 1908-9 was 12,127 as against 5,363 for 1915-6, a reduction in the number of new cases of 6,764. These figures show graphically the great progress that has been made, but the fact remains that we are still paying tribute to these two diseases alone, both of which are preventable, which runs up into the hundreds of thousands of dollars annually.

In the prosecution of her health work, the State appropriates annually $48,200.00. For the fight against tuberculosis, she sets aside annually $60,000.00 for the maintenance of Catawba Sanatorium, which is inadequate for caring for the large number of white patients applying for admission, and $35,000.00 for a similar institution for colored patients, which will doubtless also be inadequate. The records prove beyond question that it is cheaper to prevent these diseases than it is to isolate and treat them. The State should be aroused to a full sense of the value of this work. An intelligent public should rise up and demand it. Our slogan in prosecuting this fight should be "Millions of dollars for defense, but not one human life for tribute."

There is in addition to the need for our individual service to society a demand or necessity for the maintenance of our medical organization on a healthy basis. Devotion to our profession and a desire to promote our mutual interests should prompt each of us to give active support to both our local and State organizations.

There will be many problems growing out of the changes incident to the war presenting themselves for solution which will require our concerted, disinterested consideration. With a cohesive, well-directed organization, we can play an important role in meeting and solving them.

As individuals and as members of the medical profession we are all soldiers fighting hand in hand with the lay members of society for the uplift of humanity. Shall we linger in the trenches of selfishness and inaction, or shall we "go over the top"?

THE EFFECT OF THE NEW WORLD UPON PROFESSIONAL STANDARDS: SOME SIDELIGHTS ON MEDICINE.*

By DOUGLAS S. FREEMAN, Ph. D., Richmond, Va.
Editor The News Leader.

Mr. President and Gentlemen of the Medical Society of Virginia:

It is inevitable that the deliberations of this convention shall be affected by the war in which we are engaged. The absent remind us of it. The discussions will be colored by it. The khaki uniforms of some of your members give even to this occasion a martial air. Our whole psychology has been magnetized by war. I might, therefore, be excused if, as an humble cobbler, I stuck to my last and presented you, from an editor's viewpoint, a summary of the military situation. But I am beginning to fear that some of us are talking so much of war that we have no time or energy to do the work of war; and if I may not escape the subject altogether, I shall crave your indulgence in asking you to look forward to the day when the war shall end and to speculate with me regarding The Effect of the New World upon Professional Standards: Some Sidelights on Medicine.

I use the words "new world" advisedly. For as surely as the bark of Columbus rode in the lee of undiscovered islands, so surely the caravel of our national adventure will ground upon the sands of a world that is socially, politically and perforce professionally new. We have sailed from the shores of individualism and we have slipped the anchor of the

*Address delivered to the public and profession at the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917.

nineteenth century. The pilot of old standards has been put overboard these many, many months, and the topmast of the new pilot-boat is almost visible beyond the horizon of bloody waters. How could it be otherwise, when 30,000,000 of the men who are to shape the thought and the government of our generation have voyaged before us and, on the field of battle, have marched into the dawn of a new day? How could it be otherwise when industrial mobilization has led us to a collectivism that would have seemed, even ten years ago, a fantasy of dream?

In this new world whose probable professional standards we are to consider, we must expect, as a guiding force that *the intolerant discipline of experienced efficieney will be turned to the co-operation of neeessity.* The men who come back to us from trench and field, and the men who pour forth into the streets of industry when the gates are closed at the munition factories, will have this great quality in common: *They will have been disciplined in co-operation and they will have been drilled to a mental, as well as to a manual efficieney.* They will have seen how, yonder on the Aisne, or here in the machine-shops, real results come only from effective organization. They may for a season rebel against this, but when they shall be called upon to help pay the burdensome taxes of the war, and when they shall be mustered for economic readjustments, *they will instinetively revert to the up-sped methods of military and industrial attaek.* In so doing, count it as certain that they shall be intolerant of him who is inefficient or insists upon the old life of individualism. And to the darkened door of him who contests the principle of co-operation, the Ku Klux clan of efficiency will ride. Our second American reconstruction may be less dramatic than our first, but it will establish a mental, as certainly as the first reconstruction established a racial dominance. Even were this not already written in the smoke of cannon and heralded in the whirr of factory wheels, it would, I repeat, be forced upon us by governments that can hope only through co-operation to meet the enormous costs of war.

In a new world thus circumstanced, a responsive efficiency will be demanded of every profession—and demanded not merely by the conditions I have named, but by the new emphasis that will be placed upon the value of human life. For a new emphasis there will surely be. Some of it will be due to a sober appreciation of racial economics—for has not France already lost in this war as many men as she gained by slow reproduction from 1870 to 1914? Still more of this emphasis upon the individual's right to live will be the natural reaction against the impersonality of war. Those who have witnessed the slaughter of thousands will not return to us, as some are disposed to think, utterly calloused to death. They have seen the worth, not less than the waste of men. They have seen fragments from the same shell strike the hero and the wastrel. They have marched over the dead bodies of egoists and of men who have been thoughtless of self in devotion to a great ideal. In the all-illumining light of war, they have seen, as Donald Hankey put it, "the naked souls of men." And as they have sounded taps over the brave who have "gone west," they have asked themselves why all that a man had should be exacted of him at the command of another. Reversing all the familiar rules of life, those who have spent much will insist that more be saved, and they will appeal to your profession to attain a proficiency that will lose no life that can be saved. Individualism, as a principle, will thus yield to co-operation, but the end of co-operation will surely be a new utilitarianism.

If efficiency is to be demanded by the training of our men, by the necessities of our economic situation and by the new emphasis upon human life, does it not follow that in your profession, the chief requirement of the future—the foremost service you can render—will be in the *eonservation of our human assets?* This is to come, first of all, of course, through the prevention of disease. A demand for this was shaping itself in the old world. Now that some of the larger possibilities of preventive medicine are being realized, this demand will be insistent in the new world. The physician who is unsympathetic with the cause of public health will be, in very truth, a professional pariah.

The significance of this, in relation to racial economy is, of course, a common-place to you physicians. But it may not be improper to remind even you that when the figures for the nation are assembled, our losses from preventable disease in the United States reach such a staggering total that they find their only

parallel—not in the casualties of the European armies—but in the armies themselves. America's deaths from tuberculosis, for example, amount in nine months' time to as many men, roughly speaking, as we now have under arms in France. Our losses from all preventable diseases in a year reach as dismal figures as the casualties of the matchless French and the unspeakable German during the whole of the siege of Verdun. Our army of living consumptives, if mustered in sanatoria, would call for more than twice as many beds as we have provided thus far in our cantonments, for the new national army—1,500,000, as compared with some 687,000!

The demand of the new world upon you, for the conservation of its human assets, will not stop with what we have been accustomed to regard as the preventable diseases. We must go beyond—to the conditions that are not directly attributable to specific organisms—and we must set as our goal the physical fitness of every producer. Let me illustrate what I mean: One of the puzzles of modern medicine is the sharp rise in the mortality and in the morbidity of men of middle life. We were wont to say, in less nerve-racking days, that a man was in his "prime" at forty-five, and even in the jealous figures alleged to have been fixed by Sir William Osler—he never fixed them, by the way—a man was supposed to be vigorous until sixty. But all of you have had in recent years an amazing number of cases of ill-defined nervous disorders, of Bright's, or heart disease and of apoplexy among men within these years. There cannot be the slightest doubt that these ailments are on the increase and that even where they do not destroy, they vastly reduce the industrial efficiency of men who are directing the thought and the business of our country. The death rate from heart diseases in Virginia is, for the total population, in excess of the death rate among the white from tuberculosis. The death rate from Bright's is higher than that from pneumonia, and apoplexy ranks above diarrhea and enteritis among infants under two years. Suppose, now, that by rigid attention to the habits of patients, prior to the appearance of symptoms, it were possible to reduce the morbidity from the group of "busy men's diseases"—who can reckon the actual saving in leadership? I say, "suppose." This can be done, yet I am confident that the time is coming when the men of this nation will look to the medical profession not merely to cure them when sick and not merely to keep them well, but to maintain them at their physical best.

Surely this is a call worthy of you! Surely this is a task that will command your best. Think what it would mean—in mere dollars and cents—if, in meeting the demand for the conservation of human assets, you could both reduce the toll of preventable disease and lessen the loss of efficiency in the ranks of our industrial and professional armies.

It is probable, for example, that the efficiency of the average industrial establishment does not exceed sixty per cent., and it is certain that even this low standard is normally reduced at least five per cent. by sickness or physical dullness. Interpret this in terms of a nation whose manufacturers amount to over $25,000,000,000 per annum and you have, in effect, a loss of a billion a year in efficiency—a loss that is an absolute waste. To take a still simpler case, consider the preventable waste in so familiar and essential a physiological process as child-birth. The American people spend in expenses incident to child-birth per annum some $250,000,000, or thirty-three per cent. as much as the total annual expenses of the Federal government prior to the war. This is money well spent, where the parents employ a competent physician. Yet twenty per cent. of the infants die within the first year of life; consequently, we have in the reproduction of the human family an annual dead loss of $50,000,000—to say nothing of needless travail and anguish! I might enlarge upon these figures but I can perhaps sum them up in one sentence: *Assuming that the cost of our first year of war is to be twenty billion, it is perfectly possible for America to pay the interest and to provide the sinking fund on this colossal sum by preventing unnecessary disease and by increasing industrial efficiency through adequate medical attention!*

With this efficiency set as your mark in this new world of ours, it would be as useless as it would be presumptuous for me to remind you what efficiency involves in every profession in respect to more adequate training, more patient study and more painstaking diagnosis. You will draw your own conclusions far more accurately than I can suggest them. I can but wonder, however, if what we may reasonably anticipate after the war does not involve

certain changes in established professional usage. What, for instance, is to become of the old family doctor who insisted on practising medicine precisely as he learned it forty years before—with never a thought of what happened thereafter? Bless him, what a genial figure he was, and how nearly he compensated, by sympathy and social charm, for an occasional error in diagnosis! Looking into his beloved face and melting under his kindly old smile, how quickly we forgave him nauseous decoctions and his calm contempt for asepsis. We venerated him, even when he placed in the baby's mouth the thermometer he had taken, unsterilized, from the haggard jaw of a consumptive. We never stopped to ask questions when he wept with us beside the bed of the young mother who had died of puerperal sepsis. He will be left behind, I dare say, in this new world of ours, even though we pray that his cultured graces, his gentleness and his charm will be inherited by his successors. I would not laugh at him, for it was his generation that gave us Pasteur and Lister and Koch, and I am not unmindful that it takes something more than science to make a professional gentleman; but I bid him farewell in the firm conviction that the man who returns from a war that will have been won by knowing the last word of its science, will be unwilling to entrust his loved ones to any physician who refuses to learn all that he can.

I wonder, too, if we shall not have to disband in the new world that amazing marine corps of science—that self-annointed group of transcendent gēniuses who professed to be as good medical soldiers as Osler and as competent surgical sailors as the McGuires. With these eyes of mine, I have beheld in awe—and most assuredly from afar—one of these marines, who within the last few years, operated on the daughter of a family for an appendectomy and a D and C, attended all the children and their parents in all their ills and calmly announced himself as a specialist in obstetrics. I say we are leaving these physican-surgeons astern, as we steam on into the new world, for I cannot fancy that a soldier who has had one teacher for rifle-fire, another for bomb-throwing, a third for pioneering, and a fourth for drill, will ever be willing to entrust his family to a man who claims enough accomplishments to complete a medical faculty of his own. We may dispute it as we will, but the Pauline motto of the man who succeeds is destined to be, "*This one thing I do.*" And if the people only knew it, the cheapest bill they ever pay is that rendered by a physician who conscientiously examines them and passes them on to one who knows more about their ailments than he does!

And, once again: How can we attain efficiency in any of our professions, unless we rely increasingly upon clinical diagnosis? The laboratory is the citadel of every science and of every art, and the man who does not rally in it can never hope to hold the entrenched camp of his professional reputation. I well remember a physician—and not an old man, at that—who not only boasted that he had never looked down a microscope, but hotly disputed that no one else ever learned anything by doing so. The one consolation is that the man lost his practice when he should have been at his best. Do not mistake me. I do not expect the overworked country physician to make a "complete physical" every time he is called to a case. God bless him, he is the real peace-hero of your profession and the mud on his flivver is as stars in his crown. Nor do I speak less of the physician than of the editor or the engineer. Laboratory methods we must all apply if we are to be efficient in this new world of disallusionment.

One more impertinent question and I shall be ready to state my final proposition. If we must make the adjustments I have suggested, in order to attain the prescribed efficiency in the conservation of our human assets, must we not give a larger and more considerate place to those agencies that supplement so effectively the labors of the medical profession? I speak not of the sanitarians—for they have won their place and ask no favors. I speak not of the experimental bacteriologists—for a company led by a Welch and marshalled by a Rosenau, a Flexner and a Noguchi, can fight its own battle. I speak rather of the humbler units of your professional service corps—your inspectors, your nurses, and, above all, that splendid group of women who are giving to public health nursing an enthusiasm and a patience that any profession might envy them. A visiting nurse, in any city, repays ten-fold a year all that she costs—and repays in that very conservation of which I have spoken. Does she not merit at the hands of the entire profession a friendly consideration that will in-

sure her employment in every city and in every county, to supplement and complement your labors? Is she not typical of a very large class properly to be viewed as co-laborers, rather than as servitors? No modern army can win a victory unless it has, behind the firing-lines, the divisions of co-operative endeavor.

I trust my questions have not beclouded my argument and I beg you to bear with me as I sum it up in a word: Called to new efficiency by the training of our soldiery, by the grim necessities of our economic situation and by men's new emphasis upon the value of human life, you know far better than I can tell you that your triumph lies over the wide, wide way of knowledge, of patience and of brotherhood, a few of whose buoys and lights I have sought to point out, as a fellow-mariner, upon other waters of that same way.

And what is your outlook, what your end?

Voyaging through the starless night of war, when every billow breaks in blood, even on the farthest shore of man's endeavors, we of the professions might well despair us of the coming day and its tempestuous tossings, if we did not take heart in the reflection that the sailor is seasoned by the storm. We are in the remaking of our professions as surely as we are in the remoulding of our nations. We are proving the faith that is in us with every turn of the tiller and as certainly as the Medical Society of Virginia shall celebrate its golden jubilee in some city of a nobler Virginia, you who shall share that happy birthday will count the night of your foreboding as the vigil of your victory, because it will teach us that greatest of lessons—*not to repair, but to conserve!*

MEDICAL MILITARY PREPAREDNESS IN VIRGINIA.*

By STUART McGUIRE, M. D., Richmond, Va.,
Major, Medical Reserve Corps.

Some time before the declaration of war with Germany, the State Committee on Medical Preparedness began work in Virginia. This body is now known as the State Committee of the Council of National Defense, and its splendid and patriotic service has been unmarred by politics, jealousies or personal differences.

It has organized practically all the counties in the State that have a population of 10,000 or more. It has disseminated authorized information, replied to letters of inquiry and given information to drafted medical students and hospital internes. Its chief work, however, has been to co-operate with the various examining boards and to carry on a continuous campaign to secure applications for commissions in the Medical Reserve Corps.

When it was decided to raise an army of one million men it was stated that it would require ten thousand medical officers. Later, when it was planned to put two million men in the field it was first thought that the number of medical officers would have to be twenty thousand, but it is now known that the number must be 22,000. When war was declared there were only 420 officers in the Medical Corps of the army. Today there are 12,357 on active duty, 14,500 who have accepted commissions, 18,000 who have passed examinations and been recommended for commissions.

Virginia's proportion of the 22,000 medical officers who will be needed is 375. Of this number she has furnished to date about 300. This sounds good, but everything in life is relative and I am mortified to have to tell you that Virginia has made a poor showing, compared with her sister states. According to the last official figures, published October 12th, Virginia stands fortieth, according to the percentage furnished of her medical population. To explain this you will at once say that she is an agricultural State, with only two cities of over 50,000 population, and that she has only one doctor to every 800 people, while the average proportion in the United States is one to every 660. To show she could have done better, I will cite the case of North Carolina, who, in the face of a similar or worse condition, has the honor of ranking as tenth in the list referred to.

The work of the Itinerant Examining Board that is now in session in Roanoke, having just completed a three weeks' tour of the State, will be told you by its efficient president, Major Nelson.

The reasons offered by those who have not volunteered for the Medical Reserve Corps are many, and sometimes ingenious.

Some say the necessary number has been raised and that more are not needed. This is untrue. Many of the 3,500 men who have

*Author's draft of remarks delivered as a part of the Symposium on Medical Military Preparedness, before the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917.

failed to accept their commissions, will never do so. From six to eight thousand medical officers are needed now.

Some say they can't be spared because they are needed by the civil population. This in many instances is true, but often a man exaggerates his own importance. His work may be essential, but usually some one else could do it for him. Great Britain had, all told, 30,000 doctors and today over 10,000 are in uniform. We have in America 140,000 doctors, and if we furnished the same proportion we could send not 22,000, but 47,000.

Some say the war will soon be over. They get this idea from the public press, who magnify the successes of our Allies and minimize their defeats. Not because they are unpatriotic, but because they print what the people like to read.

When I was in Chicago last week, Major Crile, who is fresh from the front, said that the war was not half over. He told me he had seen many prisoners and that they were not in the condition described by correspondents, but were well armed, well clothed, well fed and full of fight.

Sir Berkeley Moynihan did not prophesy in weeks, months or years, but said we were still in the black night of bitter conflict and that while he believed the sun of peace and prosperity was on its way there was as yet no glimmer of dawn in the Eastern horizon. The war will go several years, and there will be plenty of time for every man to do his bit.

Some say they are waiting until fighting begins before they volunteer, because they don't want to spend useless months in a training camp. But these months are not useless. They are absolutely necessary. A medical officer is a soldier, as well as a doctor, and he must learn the new part of his business. Those who have been in training will tell you how essential and necessary it is.

Some say frankly that they are afraid of being killed. This is due to the exaggerated reports of the mortality among medical officers published in many periodicals. The truth is that among the 12,000 doctors who have served for the last three years in the British army there have been 266 killed and 1,234 wounded.

Some are desirous of profiting by the situation by staying at home and getting the practice of those who go to the front. Thank God, the number of these men is small and the advantage they secure will be short-lived. They will increase their incomes for a few years, but if they are known to be slackers, the very people who employ them during the war will treat them with contempt after it is over. The great American people are not easily fooled and they are too fair and patriotic not to stand by those of the profession who do their duty.

There are some who are honestly debarred from entering the service by age, physical disability, number of dependents and essential work at home. I have had interviews and correspondence with many of these men. They are eager and anxious to go to the front and are eating their hearts out because it is obviously their duty to stay at home. I feel the sincerest sympathy for them, because I realize they are making a greater sacrifice than many who are now in uniform. In order to give them recognition and to prevent their courage and patriotism being questioned, either now or hereafter, a national organization is being formed under the control of the Surgeon Generals of the Army, Navy and Public Health Service, to be known as the Reserve Medical Reserve Corps, the members of which will be designated by a distinctive badge. Those of the profession who are ineligible because of age, physical disability, or essential service to their communities, will be admitted to membership on the recommendation of the State Committee of the Commonwealth in which they reside.

FOCAL INFECTIONS IN THEIR RELATION TO SYSTEMIC DISORDERS.*

By WILLIAM H. HIGGINS, M. D., Richmond, Va.

The relation of focal infections to systemic disorders has been one of the most attractive fields for investigation in recent years. Its advent into popularity has been epoch-making, in that it has demonstrated the interdependence of the various bodily structures, and has broadened the vision of the different specialists in their responsibility for alleviating diseased conditions. Today, the diagnosis of a heart lesion or joint involvement is not complete, unless an exhaustive effort has been made to determine the portal of entry or mode of transmission of the offending organism. Such exhausting studies are not only of scientific

*Read in a Symposium on Chronic Infections, before a joint meeting of Richmond Dental Society and Richmond Academy of Medicine, April, 1917.

interest, but a new principle of treatment is introduced which carries with it a more hopeful prognosis than has heretofore been recognized.

A focal infection may cause acute systemic intoxication, or it may be so insidious in its onset that months or years may elapse before general manifestations appear. The acute foci, on account of the associated discomfort, readily attract the attention of the physician as well as the patient, and in many instances demand prompt remediable measures. On the other hand, the chronic focus of infection, often lurking below the threshold of pain, is one about which we are most concerned. Its gradual onset and low virulence of the organisms give rise to few, if any local symptoms. Consequently, the systemic invasion may take place before the primary focus is recognized. It must be assumed at the outset that such a focus is merely a potential danger, as its presence does not necessarily imply a metastasis. Whether this out-pouring of bacteria will result in further infection will depend largely on the natural defenses of the body. This defensive mechanism varies in different individuals and from time to time fluctuates in the same individual. It involves the question of specific immunity in its broadest application. It is also well known that physical and mental exhaustion, starvation, exposure to cold, etc., may reduce this natural resistance. The onset of pneumonia, rheumatic fever or nephritis following exposure serve to illustrate this lowered immunity. Whenever the natural or acquired immunity breaks down from one cause or another, the invasion of the pathogenic organisms takes place either by circulatory or lymphatic channels. Necropsies have shown that the haematogenous route is the usual one, the infection being carried by bacterial thrombi.

As a general rule, it may be stated that focal infections giving rise to systemic disorders are those with some mechanical obstruction to the natural channels of drainage. Although such a focus may be located in practically any part of the body, it is most frequently found in the upper air passages or the genito-urinary tract.

On account of their anatomical structure, the accessory nasal sinuses, tonsils, nasopharynx and teeth are the most common situations in the upper air passages. It has been shown in alveolar and tooth infections that subsequent remote effects appear most generally when the infected pulp has been incompletely removed and the cavity closed. In sinus infections, it is usually the partial drainage with consequent absorption which gives rise to general intoxication. The same is true of tonsils where the crypts occluded by infected plugs or sealed by scars of previous operations, afford a nidus for bacterial proliferation.

Young has emphasized the frequent association of systemic disturbances with vesical and prostatic infections, often of non-gonorrheal origin, and Fuller has reported a series of 254 chronic genital infections in which 50 per cent. showed joint involvement. The roll of the gonococcus as an invader was one of the first definite observations to be made following the earlier studies of focal infections.

That constitutional disturbances frequently are associated with foci of infections in these localities has been a recognized fact for many years, but only has it been during the last decade that definite analytical work has been undertaken to establish the true relationship. We are particularly indebted to Adami for his contributions on sub-infections, and more recently to Rosenau for his startling results in his studies of streptococcal infections. His observations have led us to believe that there are several strains of streptococci each possessing a special affinity for definite organs or structures, but subject to change under varying conditions. This affinity for joints, pericardium, endocardium, kidneys, etc., which characterizes these organisms, is apparently very materially altered by symbiosis with other organisms, lowered temperature or lessened oxygen supply. The fact that the same bacterium can acquire new properties and can be so radically influenced as to its virulence and selective affinity by circulatory or metabolic changes in the body gives to us a reasonable explanation for many clinical pictures common to us all.

Apparently in no other way may we explain the sudden onset of rheumatism after acute or during chronic tonsillitis; of streptococcus viridans endocarditis associated with alveolar abscess, and many other systemic infections, undoubtedly etiologically related to an existing chronic localized and confined infection.

In a series of cases of chronic arthritides, Billings has been able to demonstrate strepto-

coccal foci most frequently in the tonsils, and to a less extent in the alveolar abscesses, and sinuses. His series presented the three usual types of chronic arthritis, namely, the hypertrophic, atrophic and spondylitis deformans. His cases showed in addition to the joint involvement a chronic myositis, which was more or less selective. The muscles most often affected were the biceps, masseters, erector spinal and anterior tibial group.

Chronic neuritis of single or multiple nerves was present at some time in the course of the disease. Practically all suffered from general debility, anemia, loss of weight, lessened endurance and functional nervous disorders. These findings are in accord with the experimental work of Rosenau, who, by changes in his cultural methods, was able to reproduce in the inoculated rabbit the various syndromes found clinically.

The kidneys likewise furnish a point of predilection for certain bacterial strains. According to Baehr, there is a type of renal lesion in which the damage is primarily in the glomeruli, and is believed to be due to a streptococcic infection. Haematuria is one of the most characteristic features of the disease, which is probably due to occlusion of glomerular capillaries by bacterial thrombi.

In a summary of eighteen cases of nephritis, in which the tonsils were removed as a therapeutic measure, Crow, at the Johns Hopkins Hospital, notes a previous history of tonsillitis in all but two, and an ultimate recovery of sixteen one year after the operation. Manifestly, the tonsils were the offending foci in these particular cases.

In a similar manner, we may be able to trace the great majority of medical and surgical infections to primary foci. Such deductions, however, must be made with the full realization that more than one focus may be supplying the offending organism. As an example, an unselected group of 329 patients, in Cook County Hospital, was studied, and the incidence of all discoverable infectious processes was determined and tabulated for each patient. Alveolar abscesses were found in 76 percent. of the arthritic cases, 47 percent. of the cardio-vascular-renal, and 23 percent. of the respiratory and gastro-intestinal group. Abnormalities in tonsils appeared in 45 percent. of the arthritic group, 24 percent. of the cardio-vascular and 19 percent. of the remainder. Other foci, such as sinuses and genito-urinary tract, ranged from 11 percent. to 39 percent. of the various disorders. Such figures demonstrate the complexity of the problem and they offer a plausible explanation for many of our therapeutic failures.

In our zeal, therefore, to incriminate one particular focus, we must not lose sight of other foci which may prove equally guilty in the production of these various systemic manifestations. The more common ones have been mentioned and evidence is accumulating that the alimentary system as well is open to indictment. Therefore, it is obvious that this problem has no limitations and it challenges the most skillful diagnostic acumen in its proper interpretation.

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ANAESTHESIA AND THE ANAESTHETIST.

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In this paper I do not intend to dwell long nor delve deeply into my subject, nor do I anticipate ferreting out the whys and wherefores of each little individual symptom which may arise under the administration of an anæsthetic. My sole object is to put before those who have not had extensive experience, the fundamental and working principles of all anæsthetics and the use and abuse of the one that is most employed in our operating rooms of today.

Let us first ask, "What is an anæsthetic?" The term anæsthesia is derived from the Greek language and means "a want of feeling." The actual definition, however, covers much more ground, for, broadly speaking, an anæsthesia may be either local or general. As we are dealing entirely with general anæthesias, and, as by general anæsthesia we usually mean "surgical anæsthesia," the definition of "surgical anæsthesia" would be,—a condition of unconsciousness sufficiently complete to allow surgical operations to be performed without pain and *with as little shock to the nervous system as possible.* In the administration of all anæsthetics, even though the patient may be unconscious, until he is in absolute surgical anæsthesia, there is bound to be more or less shock, which is more fatal to the patient than the anæsthetic. This, then, renders it most necessary that the administrator knows when

the stage of complete surgical anæsthesia obtains. In order to do this, it is imperative that he recognize each successive stage through which the patient passes prior to this stage.

In the administration of all general anæsthetics the patient passes through three stages, the line of demarcation, at times, being very indistinct. These stages are, (1) the stage of imperfect consciousness, (2) the stage of unconsciousness or the excitement stage, and (3), the stage of surgical anæsthesia. There is a fourth stage of which I will speak later.

Taking the first stage and its accompanying symptoms; there is a feeling of asphyxia, the whole body feels warm and the special senses become less acute so that the speech of bystanders is often imperfectly understood and misapplied. There is buzzing and singing in the ears, inability to recognize objects in their proper places as they appear distant and often unduly large. Then there is a confusion of ideas followed by unconsciousness. The patient now passes from the first stage into the second or excitement stage.

In this stage the patient may talk and even talk rationally, but he is unconscious and will not remember anything that is done to him at this time. He is not, however, insensible to pain even though he cannot recall it upon returning consciousness. The excitement period varies in different people and under different circumstances. Those accustomed to alcoholic drinks usually pass through a more severe excitement stage than abstainers, which is also true of those who are afraid of the anæsthetic and fear that they cannot take it. A stoical, phlegmatic person may not show any excitement whatsoever. In a typical excitement stage, the higher centers go out of commission and the reflexes begin to work. The patient stiffens up and attempts to remove the mask either by using his hands or by turning his head from side to side. The pulse is rapid, the respirations rapid and irregular, the pupils dilated and the eyes moving restlessly from side to side. The skin is redder than usual and covered with beads of perspiration. Finally, the patient gradually quiets down and passes into the third stage, the stage of surgical anæsthesia.

In the stage of surgical anæsthesia, the pulse slows down and remains full and of good quality. The respirations become more shallow but are regular in all normal caess. In the majority of patients there will be snoring or stertorous breathing. The pupils now *contract* and the eyes, which were moving from side to side become fixed, staring straight ahead. The skin still remains red and covered with beads of perspiration. The muscles are all relaxed. By these signs we know that it is perfectly safe to go ahead and perform any operation without undue shock to the patient. This is complete surgical anæsthesia.

When the operation is over and the administration of the anæsthetic stopped, what happens? The exact reverse of the stages takes place. The patient first passing back into the second stage, takes a long breath, a sigh, and the eyes which were fixed, start moving again from side to side. Soon he will begin to swallow and, if he has swallowed much ether soaked mucus, he will be nauseated. His breathing becomes irregular, he moves his limbs, starts to talk irrationally and finally regains consciousness with regular breathing and then drops off into a natural sleep. So much for the different stages through which the patient must pass, going in or coming out of anæsthesia.

Knowing what to expect of the patient, the subjective and the objective signs, we now come to what may be expected of the anæsthetist. To begin with, he should always talk reassuringly to the patient, quieting his fears, in fact doing everything possible which will lessen the excitement stage and cause the anæsthesia to move along smoothly. He must gain the confidence of the one to be anæsthetized. The surroundings must be made as nearly ideal as possible. The room should be warm and absolutely quiet. This is very important to a good anæsthesia for sounds, no matter how small, are exaggerated because of the hypersensitiveness of the special senses. Bystanders should be warned not to talk and above all no talk should be allowed which has any bearing upon anæsthesia or operations. Windows should be closed and draughts abolished, for the skin is very sensitive to the least change of air. The method to be employed should be explained in full to the patient so that he may understand what is expected of him and assist in the administration as much as possible. Before the anæsthesia is started, the mask should be placed over his face and he be instructed to take a few breaths in order

to get used to the feel of it. This minor act may save not only time but often much uncomfort to the patient. Explain to him that if he wishes a breath of air to ask for it and not try and remove the mask. All this conversation is reassuring to him as well as helpful to the anæsthetist.

Now let us suppose that we have carried the patient successfully through the preliminary stages into that of surgical anæsthesia; there is one very important factor that *must* be remembered—no matter what the anæsthetic used, it only requires one quarter as much to continue the anæsthesia as it does to induce it. If this rule is carried out, not only does it practically insure the safety of the patient but it adds materially to his comfort upon return to consciousness.

One other duty of the anæsthetist, and a most important one, is to remember that the life of a human being is as much in his hands as in the hands of the surgeon. No matter how interesting the operation itself may be, the anæsthetist has all that he can attend to at the head of the table. The patient must be watched all the time, the breathing listened to continually, the color noted, the eyes examined and the anæsthetist must always be ready to meet and act upon any emergency which may arise, such as dropping back of the tongue on the larynx, commonly called "swallowing the tongue." If this latter should happen and the supply of air suddenly be shut off without the anæsthetist noticing it, the result would be fatal to the patient in time. There are several methods of dealing with this condition. The jaw may be thrust forward drawing the tongue forward at the same time and away from the epiglottis, or the tongue itself may be pulled forward and held there. If it become necessary to pull the tongue forward, and tongue forceps are used for this purpose, caution should be exercised in not allowing the forceps to remain on the tongue longer than absolutely necessary. Once the tongue has been pulled forward out of the mouth it can be held there with a piece of gauze between the fingers. If we find that the patient cannot obtain the necessary amount of air without holding the tongue out all the time, the best method to adopt is to use some No. 6 silk and thread it through the tongue in the middle line about half an inch from the tip. It should then be tied loosely to the tongue to prevent any sawing motion and cutting of the tongue. The thread should be removed as soon as the patient shows any signs of regaining consciousness or the muscles begin to show returning tonicity.

It is necessary that the anæsthetist keep constant track of the pulse, counting it at least once every five minutes and oftener if necessary. If all of these things are well attended to, the anæsthetist will have no time to watch the operation. It is his duty to keep the patient in such a degree of narcosis that in 15 to 20 minutes after the removal of the mask, the patient will show some sign of returning to the second stage. At the same time, he should see enough to enable him to judge of the degree of anæsthesia required, as for instance, dilating the sphincter ani or pulling on the intestines will cause the patient to breath deeper and faster, and is not a sign that he is "sliding back" into the second stage. If he does not have the patient in complete surgical anæsthesia at these times, there is going to be considerable shock to the nervous system.

As soon as the deep sutures are taken by the surgeon, before the skin sutures are put in, the mask should be removed from the face of the patient and he be allowed to exhale the ether stored up in his lungs. The duties of the anæsthetist do not end simultaneously with those of the surgeon, however, for it is his place to attend to the patient until the latter is safely in bed or is turned over to some responsible person who will insure his safe return to consciousness and see that there is no obstruction to the air passages. Such are the duties of the anæsthetist to the patient, but he has also duties to the attending surgeon.

No surgeon cares to operate unless he has confidence in his anæsthetist. He has quite enough upon his hands without having to worry about the anæsthetic or the condition of the patient. This duty falls upon the man at the head of the table and should be recognized by him, and he should do everything in his power to assist, not hinder, the surgeon.

When the operation is begun, the muscles should be entirely relaxed so that, in an abdominal operation, no opposition is experienced in going through the abdominal wall. The incision into the peritoneum should be watched for and the anæsthetist be prepared to administer more ether if necessary, for, in

some cases, a patient may apparently be in surgical anæsthesia but the stimulus of the pain at this time cause him to "slide back" so far as to cough or even move. This should be watched for and treated accordingly.

During the operation, as stated before, the pulse should be counted at regular intervals. As, manifestly, the pulse in the wrist is inaccessible, that in the temporal artery should be the one used. The tip of the finger placed half an inch in front of the ear will elicit the pulse. Given a normal person in surgical anæsthesia, the pulse should be between 100 and 110 per minute. If the pulse goes down, even as low as 80, but remains full and regular, no notice need be taken of it, but if it increases to 130 or beyond and is weaker in quality, it is best to at least notify the surgeon. One point to be remembered here, however, is, that, if the pulse is 120 or even 140 it may be perfectly normal if the patient is *not* in surgical anæsthesia, so always be sure that the patient *is* in this stage before notifying the surgeon of a rapid pulse. The anæsthetist should always be ready to tell the surgeon the exact condition of his patient and unless the condition is kept constant track of, this will be impossible.

Some operations require a deeper degree of anæsthesia than do others, so the type of the operation should be noted as an indication to the depth of anæsthesia needed. Any operation in which the abdominal cavity is opened requires deep surgical anæsthesia, while a light one is all that is needed for such operations as opening abscesses, curretting wounds, etc.

Coming to the actual administration of the anæsthetic itself, I purpose to give but one method, namely, the drop method of ether anæsthetization. There are many other methods of administering ether, such as the closed method, the rectal method, intravenous, nasal, intratracheal and intramuscular methods, but all of these methods require special apparatus as well as experienced men to administer them. The drop method of giving ether is the most employed, and, as Dr. John B. Murphy said, "the administration of ether by the drop method by any person who is at all careful and who will follow certain prescribed rules, is practically free from danger." This method is the most extensively used in our hospitals today and with it the best of results are obtained.

Given the surroundings above spoken of, the anæsthetist first goes over the chest of the patient with a stethoscope to ascertain if there is any bronchitis or other lung trouble present. This is very important as any light trouble, such as a plain cold, may be very easily changed into a serious one by the irritation of the ether fumes. If the patient has a cold or bronchitis, it is best, if possible, to postpone the operation or advise that it be done under a local anæsthetic. Careful attention should be paid to the condition of the heart and in the event of a serious heart lesion, the operation cancelled or the anæsthetic given with great care if cancellation is impossible. If the patient has any false teeth, they should be removed unless they are in tight, and even then care should be taken if a mouth gag is used. A tooth dropping back into the larynx may cause the death of the patient before it can be removed.

When ready for the administration, vaseline or cold cream should be applied around the lips, nose and eyes to prevent ether burns where the mask touches the face, and a towel, preferably wet, should be placed over the eyes to eliminate the conjunctivitis often caused by ether fumes.

There are many masks and methods of applying them, but the Mayo open mask answers all requirements. This should be covered with gauze, ten thicknesses being sufficient, for if it is too thick, the ether will evaporate on the surface and the patient not get the full benefit of the amount given. The seal of the ether can is now cut and a cork, with two longitudinal notches cut in it with a gauze wick in one of them, is inserted into the neck of the can. If the can be tipped slightly, the ether comes out drop by drop, while if it be tipped more, this changes to a small stream, so the amount of ether can be regulated at will.

The mask is now placed over the patient's nose and mouth and he is requested to breath in a perfectly normal manner. The left hand of the anæsthetist holds the mask in position and also the ring and little finger of that hand are used to hold up the jaw and push it forward. This hold is never relaxed as long as the anæsthetist remains in charge of the patient, unless an emergency arises which makes it necessary for the tongue to be pulled forward to stop an obstruction, or artificial respiration needs to be given.

After the patient has taken a few breaths,

in order to get used to the mask, a drop or two of ether is allowed to fall upon it. This is enough at first and it allows the patient to get used to the unusual odor. From now on the ether is given evenly, over the entire surface of the mask, gradually increasing until finally the patient, having passed through the first and second stages, goes into complete surgical anæsthesia. During the first stage, he will probably complain of suffocation, but if the mask is lifted, and a good breath of air given, this soon passes off.

In the second stage the patient may cause a lot of unnecessary worry to the inexperienced anæsthetist, by becoming cyanotic. This is often the case with alcoholics, but it is not an alarming symptom and there is nothing to worry about. After he has held his breath sufficiently long for a good amount of carbon dioxide to accumulate in his blood, this will stimulate the respiratory center in the medulla and breathing will be resumed. Cyanosis in the second stage is in reality a minor affair; on the contrary, cyanosis in the third stage is a cause for real worry and steps should be immediately taken to overcome any obstruction which may exist in the air passages. In the second stage, cyanosis is caused by the patient reflexly holding his breath, the muscles still retain their tone and there is no actual obstruction existing. In the third stage, cyanosis is due to a real obstruction.

If the patient starts to cough during the administration, there is nothing to worry about as it simply means that the anæsthesia has been given a little too rapidly. There are two ways to overcome this coughing, either by taking off the mask and allowing the patient to breath some fresh air, or by pushing the anæsthetic and hurrying through this stage. Obviously, the former is the more safe and is much easier on the patient, but sometimes conditions are such that the extra time this takes cannot be given, then the latter method must be resorted to. One thing to remember, however, is that if we push the anæsthetic, there will be more coughing for a short time and with it more ether soaked mucus to be swallowed, resulting, in all probability, in more nausea. It is always wiser to adopt the first method if practicable.

Gradually the patient sinks into the third stage and the signs of this stage make their appearance. Once more the fact should be recalled that it only takes one quarter as much ether now to continue the anæsthesia. Suppose we disregard this warning. Ether, as an anæsthetic, is ideal as long as the prescribed rules are carried out, but if we overstep this safety line, we come to the fourth stage, the stage of too deep anæsthesia, the stage of approaching death, the danger zone of anæsthesia. The patient gradually becomes cyanotic, losing the pink color characteristic of ether narcosis. His breathing will still remain regular but decreases in depth, becoming more and more shallow as the anæsthesia increases; the snoring ceases. The lips begin to flap at each expiration, the pulse becomes weaker and weaker and more rapid until at last it begins to get irregular. The pupils dilate and finally the breathing stops. It is an extremely dangerous situation, but even here there is a loophole through which to crawl providing the condition is taken in time. In chloroform anæsthesia, the breathing and the heart stop at the same time, but in ether the breathing stops first and, if artificial respiration is performed at once, the breathing will commence in a short time. This is what must be done without any delay and upon the anæsthetist falls this duty. He should start at once, using the Sylvester method, and continue until the breathing has fully started and will continue without his aid. He should have an assistant handy to hold the tongue out so there will be no obstrution to the flow of air. Once the patient is breathing again of his own acord, allow him to drop back of the safety line before any more of the anaesthetic is used.

Cyanosis itself, in the third stage, is not always a sign of too deep anæsthesia, for some people cannot be anæsthetized sufficiently well to permit of an operation unless they are cyanosed all the time. In these cases the cyanosis should be disregarded and the breathing watched continually. As long as there is sufficient air going into the lungs and the breathing is regular, the patient will get along without any difficulty.

It is possible that the patient, sometime during the anæsthesia, will simply stop breathing. This may be caused by too deep anæsthesia, or because he has a sufficient quantity of oxygen in his lungs from too deep breathing. Whatever the cause, he must be forced to breath as soon as possible and there are

several ways of starting this reflex. A small quantity of ether poured on the chest may start it, or pushing in on the short ribs and suddenly letting go may have the desired effect. Pulling up on the breast may also have the desired effect. Once he is breathing again, always be sure of the depth of the anæsthesia before using any more ether.

If, during an operation, the patient shows signs of being nauseated, push the anæsthetic. It means that he is "sliding back" and needs a deeper anæsthesia. If this does not suffice, and he starts to vomit, he should be immediately turned upon his side. Don't be satisfied with just turning his head because this will not always prevent the inspiration of a food particle in the vomitus.

Much more can be written upon this subject, but, for all practical purposes, this will give the beginner the main guides, and, if he follows them, the administration of the anæsthetic will be reasonably safe.

In conclusion, I wish to lay emphasis upon a few points which I consider of major importance, and to do this, I know of no better way than to use a few "don'ts."

Don't talk abruptly to a patient about to undergo an anæsthetic for the first time.

Don't forget the principal signs of the different stages of anæsthesia.

Don't forget that it only takes one quarter as much anæsthetic to keep a patient under as it does to put him under.

Don't forget that the anæsthetist's job is to give the anæsthetic, not to do the operation. If a good anæsthesia is given there will be no time for anything else.

Don't allow the operation to commence unless the patient is in complete surgical anæsthesia.

Don't forget to notify the surgeon if the condition of the patient warrants it.

Don't push the anæsthetic too fast from the start.

Don't get any ether in the patient's eyes.

Don't allow the tongue to obstruct the flow of air into the lungs.

Don't allow the patient to "slide back" in the midst of an operation.

Don't forget to watch the color, respirations and rigidity.

Don't forget to keep track of the pulse regularly.

Don't overstep the safety line.

DON'T GET EXCITED if the anæsthetic is not perfectly smooth from the start, for an anæsthetic in the hands of an excitable person is much more dangerous than in he hands of an absolute novice who follows the prescribed rules and keeps his head.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 357).

General Streptococcic Infection Through the Accessory Sinuses and the Tonsil.

By T. H. HALSTED, M. D., Syracuse.

Chronic suppurations in the sinuses are by no means local diseases in the sense that their effects are confined to these organs.

It is the chronic infections, the staphylococcic, pneumococcic and streptococcic, that are perhaps of greatest importance, because of the insidious and slow degeneration which their absorption produces in the whole system. It is these which are so commonly overlooked and their true significance so little appreciated by both specialists and the general practitioner.

Of equal and perhaps greater importance than local infections of the nose and their adnexa, though only in a degree, are the infections of the teeth and of the tonsils.

The tonsils, whether the faucial, lingual or nasopharyngeal, in a normal healthy condition, undoubtedly offer a hindrance and are a barrier to the farther ingress of pyogenic organisms to the lymph or blood stream. Conversely in a diseased and delapidated condition, these same structures offer a habitation and afford the easiest way, becoming the open portal, for the passage beyond of the invading army of micro-organisms.

A mixed infection of the tubercle bacillus and the streptococcus is of frequent occurrence. Just as tuberculosis is conveyed from one individual to another through the inhaled sputum, and is mildly contagious, so probably is rheumatism—i. e., infectious streptococcic rheumatism.

It is a matter of constant clinical observation that with enlarged and diseased tonsils, not regarded as tubercular, enlarged cervical glands, thought to be tubercular, are often associated. The removal of such tonsils is usu-

ally followed by a reduction in the size of the enlarged glands.

Endocarditis and arthritis often supervene or follow an attack of acute tonsillitis.

Chorea is now known to be a rheumatic or streptococcic infection of the nervous system, that the improvement results because of the removal of the primary focus of infection, the tonsil and the adenoid.

In childhood, tonsillar and lymphoid tissue is most prone to acute infection, and it is at this time of life that acute inflammatory rheumatism and endocarditis, usually following an acute tonsillitis, is most likely to occur.

We shall soon be classifying a great many affections now regarded and treated as separate entities under the general classification of streptococcic disease.

The streptococcus is transmitted from one individual to another through direct or nearly direct contact, such as in the act of coughing, sneezing, kissing, the organism being inhaled into the mouth with the mucus from the infected person, or it may enter through traumatism by means of an infected instrument, or again it may reach the mouth through food, particularly milk, the milk having been infected by those handling it.

As for the treatment of streptococcic infected tonsils, complete enucleation (tonsillectomy) is the rational procedure.

After the tonsils are removed the patient may still show evidence of remote or general streptococcic infection. This means simply that there still remains a focus somewhere, possibly in the adenoids. Possibly the tonsils were not completely removed, even though the operator was most careful, a small piece, no larger than a pea, remaining in the supratonsillar fossa or at the base, adjoining the lingual tonsil; and if such is the case, this fact should be recognized and dealt with by a second operation, the sooner the better. Again, an apical tooth abscess may have been overlooked or the difficulty may lie in a secondary focus in the gall bladder, the appendix, some joint, the endocardium, pleura or other localized area.

The Suscentibility to Infection Manifested by the Remains of Incompletely Removed Tonsils.

By HANAU W. LOEB, M. D., St. Louis.

If a portion of the tonsillar lymphoid tissue is left after operation, especially if it happens to contain a crypt, it is very much inclined to persist in statu quo. It may never occasion any unpleasant result, but it is present nevertheless with its susceptibility to infection, reduced though it may be. What is considered an atrophied tonsil usually signifies that the tonsil tissue has become somewhat more covered by the anterior pillar and has in part simply disappeared from view.

There must be a not inconsiderable number in which tonsillar stumps remain, even in the practice of the most experienced operators, and the writer presents five cases showing infection originating in such tonsillar remains.

These cases definitely show that small masses of tonsil tissue overlooked, or at least not removed at the operation, are susceptible of infection with remote effects similar to those which follow acute tonsil infections.

They must have their counterpart in the practice of other laryngologists, and from his own experience must be common enough to constitute a fairly definite clinical entity.

They present a decisive argument against any form of operation which does not contemplate the entire removal of the tonsil, especially where there have already been some infective processes originating in the tonsil.

They suggest the advisability of following up cases of tonsillectomy to determine whether any portion remains and whether it has become a focus of infection.

Discussion of Papers of Dr. T. H. Halsted and Dr. Hanau W. Loeb.

Dr. George B. Wood, Philadelphia: I desire to call especial attention to the difficulty in recognizing when a tonsil is responsible and when it is not responsible for a given infectious condition. According to my own experience, inspection of the tonsil itself in the majority of cases side little in this determination. Small innocent looking tonsils can give rise to severe general infections, while, on the other hand, large swollen tonsils with masses of epithelial debris in the crypts are frequently found in apparently normal individuals. Of much more value is the history of repeated attacks of tonsillitis, their relation to the general infection, and the presence of cervical adenopathy. The bacteriologic study of the contents of the crypts of the tonsil will often give important data. This study can be carried further by determining the relation of the bac-

teria obtained from the crypts to the blood reactions of the individual. In a person suffering from chronic tonsillar absorption for a considerable length of time, it is probable that a certain amount of immunity against these organisms has been established. If agglutination of the bacteria from the crypts or a complement fixation can be demonstrated, there would be good reason to believe that a certain amount of absorption had taken place through the tonsil. From a somewhat limited number of cases this reaction has been found in a certain number of chronic cases, though in acute tonsillar infections the immune bodies could not be demonstrated, probably because sufficient time had not elapsed for their formation. The importance of these reactions can only be determined by a large series of cases, preferably carried out by a number of observers.

Concerning the possibility of recurrence of tonsils after removal, I believe that a certain amount of actual recurrence can take place. In these cases the new tonsillar tissue is superficial and is found simply as small lymphoid follicles scattered over the surface of the scar tissue. More frequent and more serious apparent recurrences are simply hyperplasias of tonsillar tissue left behind at the operation.

Dr. Burt R. Shurly, Detroit: Many people think that when their tonsils are removed they will never have another sore throat, and that is not probably explained sometimes by the man who does the operation. Again, we have certain islands of tissue that are perhaps more frequently left in place, and undoubtedly, if we take into consideration all the different operations we have done throughout the years, we will find a very considerable number of incomplete operations. On the anterior pillar itself, very frequently even when we think we have accomplished a very complete operation, we find tiny islands of tissue which can only be observed by a most thorough examination. Many times when we think we have done a most complete operation and go back over the ground again, one, two or three times, we still find some tiny islands of tissue we have left; if this happens to be on the anterior pillar, it frequently gives rise to more trouble. I do think though, that there is great danger of exaggeration as to just how much damage results from leaving some of these tiny islands of tissue.

Dr. Thomas Hubbard, Toledo: I have in mind a throat in which there was perfect enucleation of the tonsil, and yet the patient returned several times and said that she was having recurrent attacks resembling those which she had previously had. Finally, one day she returned with a distinct swelling. I was able to pass a probe into the fistulous tract, which evidently led into the muscular tissue. There was no tonsillar tissue left at all, but showed a most thorough operation. It is probable that sometimes we leave one of the small fistulous tracts which have been part of the peritonsillar suppuration at some previous time. I would say that during these attacks she had a recurrence of the arthritic symptoms, just the same as when the attacks were due to tonsillar and peritonsillar inflammation.

Dr. J. Payson Clark, Boston: There is one point in Dr. Halsted's paper which I would like to emphasize, and that is the possible relation of unsuspected conditions of the teeth to general infection. I have been surprised at the number of cases in which a tooth giving no symptoms locally at all, was in a very bad condition, and treatment of that tooth at once relieved the general symptoms.

I have been surprised once or twice, and several of the cases I have been able to explain, where I was perfectly positive I removed the tonsil, capsule and all, where the capsule was perfectly smooth and the fossa quite empty after operation, and a year or more afterwards there has been an appearance of tonsil on one side or on both sides. My explanation was that some of the lymphoid tissue of Waldeyer's ring in the healing process has been drawn up into the region of the tonsil. That tissue drawn up differs from ordinary tonsillar tissue in that no crypts appear in it. I have never seen any inflammatory process.

Of seventy-three cases operated at the Massachusetts General Hospital before we had begun to do the capsule operation, in sixty cases the tonsil tissue was still visible; twenty of the cases gave a history of one or two attacks of sore throat since the operation. Of those attacks only ten had been definitely determined upon to be tonsillitis; at least two-thirds of the cases of tonsillotomy had had no subsequent trouble. There were twelve cases of illness since the operation, but none of the cases of illness were of the kind to be attributed to any infection from the remains of tonsillar tissue; these cases were all children.

Dr. Henry L. Swain, New Haven: The

fact that we do not have more knowledge of the return of tissue after enucleation, I believe is due to the fact that in lots of our cases the person is not as susceptible as are those from whom we do hear. Certain cases show marked susceptibility to inflammatory seizures. If you leave the slightest bit of tissue, you get a report of sore throat and constitutional symptoms, etc. In other cases you can leave three times as much tissue and there is no report of any trouble whatever.

In my home town, a year ago, we had an epidemic of streptococcic sore throat, due to milk infection. In all we had one hundred and twenty cases. I took a great deal of interest in looking into the question of the presence or absence of tonsils. Out of that group there were between twenty and thirty cases who had had thorough removal of the tonsils— absolute tonsillectomy. None of us would have been dissatisfied with the results of the operation had we done it ourselves. In these cases we sometimes got more trouble than in those in which there is an abundance of lymphoid tissue. The five cases which gave me the most trouble, with abscess formation, edema of the larynx, were in cases of complete tonsillectomy.

The probabilities of general infection such as Dr. Halsted speaks about are illustrated in a most interesting case I had recently, where the patient had a simple sore throat and then developed general poisoning of the system from the effects of inflammation. As a result of that he had a large abscess at the back of the neck which seemed to have a formation of membrane in it, so that one expected to find pseudodiphtheritic discharge. He was given autogenous vaccines in large doses, and it was well carried out in every patricular. Six weeks after the original sore throat he came down with another sore throat in which he had exudate over four distinct strips of tissue; both tonsils and both lateral columns of the pharynx were covered by a false membrane. Cultures from this showed it to be streptococcus. He did not have a distinct streptococcemia.

Dr. Greenfield Sluder, St. Louis: It is an interesting question all the way through, and that is the matter of peritonsillar infiltrate. The aftermath of the case, the future course of the case frequently has been influenced by the infiltrate that was about the tonsil. That infiltrate seems to me to frequently take the part almost of the tonsil itself. I have seen them a few times, and latterly I have seen a few cases in which the infiltrate behaved as the tonsil—began with a sore throat and suppurated in both cases. The tonsil was perfectly enucleated and preserved in a bottle. I make it a practice in operating upon cases to save the tonsils from every individual, and later on I frequently find that I possess a number of tonsils and capsules which are perfect; but, as Dr. Clark has expressed it, the lymphoid tissue of the base of the tongue has grown up into the fossa and looks very much like a tonsil. The peritonsillar infiltrate may, furthermore, hypertrophy and later on look like tonsil, as if something had been left, unless very carefully inspected. With that end in view, some three months ago, in the presence of a very large infiltrate, I removed the tonsil with a guillotine and found something which looked like tonsil still in the throat. I then took out the infiltrate, the size of the original tonsil, and the infiltrate on the opposite side remained. Subsequently sore throat developed, and developed in the infiltrate that was left. The side from which the infiltrate was removed escaped.

Dr. Harmon Smith, New York City: I believe that nature requires a certain amount of lymphoid tissue in that region, and, just as we see when we remove the soft palate for malignancy, the posterior tips of the turbinate hypertrophy to prevent regurgitation of food in the pharynx, so the remaining lymphoid tissue undertakes to carry on that element of protection which the tonsils previously did. I do not believe that spontaneously tissue resembling the original tissue will spring up. I know of instances in which, three or four times after the removal of tonsils, from childhood on up to puberty, where each time every microscopic evidence had been removed, yet there still recurred certain islands of lymphoid tissue, and around the islands there was formed a certain kind of capsule.

If you remove tonsils and leave lymphoid tissue at the base of the tongue, in such infections as from milk, etc., the lymphoid tissue at the base of the tongue will produce tonsillitis just the same as the original tonsil.

Dr. Joseph Goodale, Boston: In certain children who may have tonsils and adenoids removed by operation we may have a condi-

tion of partially developed anaphylaxis. It is not a true vasomotor rhinitis, but a condition of snuffing, blocking of the nose, and the symptoms which appear are those of a tendency to taking cold. There may be possibly a portion of tonsils left, but what we should do is to look somewhat further than the throat. We should see if the child is taking more milk than it is accustomed to in the summer, or an extra cup of cocoa, or an extra egg; it seems to me, before we should proceed to a further operation on that throat that we should examine very carefully this question of diet. I would suggest that any of this unusual food should be diminished and restricted, and I am sure that you will find that a certain percentage of these cases will lose their symptoms. They will freely disappear without another operation, or loss in weight, but a gain in weight.

Dr. Hanau W. Loeb, St. Louis: (closing the discussion): I have spoken of the actual leaving of portions of the tonsil in some instances by myself, and in some instances by other operators. I am sure that if operators will examine their cases, one, two and three months after operation, they will find not infrequently that a small mass of tonsillar tissue remains. It so happens that in two instances I was able to verify the fact that I had left a portion of the tonsillar tissue there, because I had the tonsil in a bottle, and a careful examination of the capsule revealed where a very minute portion had been omitted.

With reference to the inclusion of some tonsil tissue in the scar, I feel, at least in one particular case I reported, that the inclusion was there before the scar; in other words, I left a mass there and the scar covered it over. This was the case in which there was a minute abscess in a little crypt. This patient had several attacks of appendicitis which went on to operation, and I feel that the little piece I left there may have been responsible.

We should not hesitate to let our patients know when we have performed an incomplete operation. This is better than having an acute infection come on and someone else tell the patient. I do think we ought to protect ourselves in that respect. I for one never hesitate to tell the father or mother of a child that I have left a small portion of the tonsil. Of course years ago, that was fairly common, but I am thankful to say it is uncommon now.

I wanted to bring the matter up to the association, not as an argument for tonsillectomy, but for complete tonsillectomy, and also to assert that the mere statement that an operator is going to do a tonsillectomy does not signify that he is doing or has really done a complete tonsillectomy operation.

Serial Frozen Sections of the Thorax From a Case of Aneurism of the Aortic Arch.

By GEORGE FETTEROLF, M. D., and GEORGE W. NORRIS, M. D., Philadelphia.

The main points of interest in this report are as follows:

1. Photographs of the patient obtained at various periods during life showed successive steps in the growth of the protruding mass.

2. Frozen sections were made of a case which had had careful clinical study, and as a result, conditions as they had existed in vivo could be accurately reproduced and deliberately studied after death. Search of the literature reveals the fact that this is the first opportunity of this kind which has risen and been taken advantage of.

3. The exact site of rupture, and the cause and mode of death, could be determined and depicted with a degree of accuracy, certainty and detail which would be impossible of attainment in an ordinary autopsy.

4. The hydrothorax, the pulmonary atelectasis, and the extreme dyspnea are explained in a manner which by any other method of study would have been much less satisfactory, if at all possible.

5. The last statement is equally true of the anatomic relations. The altered position and general changes in the bronchial tree and other thoracic contents are depicted in such a graphic manner as to show to the laryngologist and internist alike what does take place in the presence of such a lesion as this large aneurism. It also suggests what may take place in some of our future clinical cases in the presence of other disturbers of the normal intrathoracic relations.

DISCUSSION.

Dr. Greenfield Sluder, St. Louis: The labor in presenting Dr. Fetterolf's material is exceedingly great. We are constantly dealing with disturbances that seem trivial, which, if we bear in mind the relations within the chest, are frequently separated and put into a more serious category. It has been my experience within the past three months to, as it were,

pick up two aneurisms of the aorta by virtue of dislocation of the windpipe, recognized in the laryngeal mirror, and a number of times I have outlined the same dislocations within the mediastinum, depressions of the windpipe, as a means of recognizing mediastinitis. Sometimes they are not of tubercular origin; more frequently I believe it to be tubercular. In one case that proved exceedingly desperate, the infection was a primary tracheitis, going on for a length of time with mediastinitis and depression of the windpipe.

(*To be continued.*)

Have you a meatless Tuesday in your home? A meatless Tuesday means the absence of beef, pork, mutton and their products from the home table. These are the meats most needed for the allies as well as for our own men in Europe today.

This world war may be won—or lost—on the battlefield of food.

Be a food administrator in your own home and help win this war.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Man's Unconscious Conflict. By WILFRID LAY, Ph. D. Published by Dodd, Mead & Company, New York. Price, $1.50.

The modern spirit in Medical Science and Art does not content itself with alleviating physical ills merely by drugs and diet lists. It makes appeal to emotions through the intellect. It brings out our mental attitudes toward our ills. It takes a spiritual inventory of our beliefs, suppositions, misbeliefs, superstition and all ideas about our mental and bodily physiology. It makes us see things about life which we never dreamed of before or did not know we dreamed of. It puts in order the disarranged thoughts which we have been thinking for years, from our earliest infancy, and helps us to associate these thoughts as they should be associated in order to make us as much use to society as we could possibly be.

These ideas are presented in this volume in a most concise and popular manner, so that they could become accessible to every layman. The author has fully succeeded in his task. In nine chapters he describes in a most readable and attractive way the chief element of the modern psychological trend, namely, "the unconscious." After having discussed the subject in detail, he finally applies the new acquisitions in psychology to the practical side of the subject, namely, to educational efforts. The book is a credit to the author's grasp of the modern ideas.

ALFRED GORDON, M. D.

Editorial.

The Medical Society of Virginia

Held its forty-eighth annual meeting at Hotel Roanoke, Roanoke, Va., October 30-November 2, 1917, with an attendance that was large—in fact, surprisingly good, in view of the absence at this time of so many members who are now in government service. There were also in attendance quite a number of lady visitors. The opening session of the Society, on Tuesday night, was presided over by Dr. Geo. A. Stover, who delivered his Presidential address after invocation by Rev. W. C. Campbell. A very pleasant feature occurred at the beginning of the evening's program, when Dr. F. M. Hanger, of Staunton, presented Dr. Stover a gavel, made from the wood of the bed upon which he was born, in Augusta County. The address to the public and profession was made by Douglas S. Freeman, Ph. D., editor of the Richmond *News Leader*, and we commend this as well as the address of the President, both of which appear in this issue of the *Semi-Monthly*, to the attention of our readers.

Following the address by Dr. Freeman, were two scientific papers, which were of more or less interest to the general public, one on Cancer of the Breast, by Dr. J. Shelton Horsley, Richmond, and the other on Osteitis Deformans, by Dr. E. T. Brady, Roanoke, both of which were illustrated by lantern slides. Reports of officers and various committees were presented at the Wednesday morning session. The report of the treasurer especially attracted attention, in that it showed for the first time in several years that the Society was out of debt and had a balance in bank to its credit. The treasurer attributed his success largely to the fact that in many instances he had been directed by the local societies to collect from

the members direct. In this connection a resolution was adopted, thanking Dr. Peyser, the retiring treasurer, for his good work which helped to get the Society out of debt. The subject for general discussion—Diseases of the Bladder—was presented by only two of the four appointed leaders, Drs. E. H. Miller, Danville, and John Staige Davis, University. These two papers are to appear in the next issue of the *Semi-Monthly*. The other two leaders, Drs. T. V. Williamson, Norfolk, and A. L. Herring, Richmond, were unable to be present, owing to the fact that they are now on active duty in the medical service of the government.

The Symposium on Medical Military Preparedness, which was presented at a local theatre, Wednesday evening, attracted considerable attention and was probably the feature of the meeting. The speakers, none of whom used manuscript in their talks, were Major Stuart McGuire, Major J. Garnett Nelson, State Health Commissioner E. G. Williams, Surgeon L. L. Lumsden, U. S. P. H. Service; Col. E. L. Munson, Medical Corps, U. S. A., and Major Henry Jump, attached to the office of the Surgeon General of the Army, Washington. Especially interesting were moving pictures presented by Col. Munson, illustrating the surroundings and depicting scenes in a number of important camps of this country.

The report of the Executive Council, recommending changes in the Constitution and By-Laws, in accordance with the pamphlet sent members during the past summer, was adopted with a few minor changes. Resolutions were adopted to reimburse the Legislative Committee for funds expended in furtherance of Society work. It was also decided that members in the service of the army and navy of the United States would have their dues remitted during the continuance of the war. Dr. Paul Johnson, of Washington, attended the meeting in the interest of the National Council of Defense, in order to present the problem of venereal diseases as they relate to the army and navy.

The following officers were nominated and duly elected: President, Dr. Ennion G. Williams, Richmond; vice-presidents, Drs. S. W. Dickinson, Marion; Harry T. Marshall, University, and C. D. Barksdale, Sutherlin; secretary-treasurer (which offices were combined), Dr. P. A. Irving, Farmville; delegates to the American Medical Association, Drs. W. E. Anderson, Farmville, and Southgate Leigh, Norfolk, were elected to succeed themselves, their alternates being respectively, Drs. E. T. Brady, of Roanoke, and G. A. Stover, of South Boston.

The newly elected councilors are: State at large, Drs. W. R. Cushing, Dublin, and Beverley R. Tucker, Richmond; First District, Dr. Clarence Porter Jones, Newport News; Third District, Dr. A. G. Brown, Richmond; Tenth District, Dr. Charles H. Davidson, Lexington. Officers of the new Council are Dr. A. L. Gray, chairman, and Dr. A. G. Brown, Jr., clerk, both of Richmond.

The following standing committees were elected: Membership Committee, Dr. W. D. Turner, chairman, and Drs. George J. Williams, J. E. Knight, W. F. Driver and Frank H. Smith; Legislative Committee, Dr. H. U. Stephenson, chairman, and Drs. J. Bolling Jones, C. H. Rolston and T. S. Hening; Necrological Committee, Dr. Charles M. Edwards, chairman; Judiciary Committee, Dr. Charles R. Grandy, chairman, and old committee.

Members of the Medical Examining Board of Virginia nominated to the Governor for appointment are as follows: First District, Dr. J. H. Ayres, Accomac; Second District, Dr. P. St.L. Moncure, Norfolk; Third District, Dr. J. E. Warinner, Richmond; Fourth District, Dr. J. Bolling Jones, Petersburg; Fifth District, Dr. R. S. Martin, Stuart; Sixth District, Dr. J. W. Preston, Roanoke; Seventh District, Dr. P. W. Boyd, Winchester; Eighth District, Dr. S. W. Maphis, Warrenton; Ninth District, Dr. W. W. Chaffin, Pulaski; Tenth District, Dr. Robert Glasgow, Lexington.

The next place of meeting will be Richmond, probably during the month of October, 1918. The subject, as well as the leaders, for general discussion, have been referred to a special committee, who will report to an *ad interim* meeting of the Council. The probable subject will be "Medical and Surgical Problems Connected with the War." The retiring president, Dr. George A. Stover, was elected to honorary membership.

A number of entertainments were given, including an automobile trip, for the ladies, to Mill Mountain, the Country Club, and other places of interest, and a tea at the home of Mrs. J. W. Preston. There was also an automobile trip to Catawba Sanatorium, which gave the visiting physicians an opportunity to form some idea of what the State is doing for its

tubercular subjects. Dr. Samuel G. Gant, New York City, invited guest, likewise deserves credit for having entertained the Society, after an illustrated scientific moving picture lecture, with a sleight of hand performance, at which he is an artist. This was an unusually attractive feature of the evening's entertainment and thoroughly enjoyed by those present.

The Piedmont (Va.) Medical Society

Met in Gordonsville, Va., October 21. Among those present, were Drs. Page, Holladay and Scott, of Orange; Magruder and Macon, of Charlottesville, and Scott and Booth of Gordonsville. Dr. John W. Scott, Gordonsville, the appointed leader, read a paper on "The Management of a Case of Normal Labor," which was generally discussed. Drs. Lewis Holladay and F. G. Scott, of Orange, made earnest appeals for the eligible physicians to tender their services to the country. Dr. Francis L. Thurman, Keswick, is president, and Dr. F. G. Scott, Jr., Orange, secretary-treasurer.

Drs. C. C. Page, Lewis Holladay, and F. G. Scott, Jr., of Orange, and A. P. Derby, of Monrovia, went to Harrisonburg October 19, and volunteered for service in the medical department of the army. Dr. Page was not accepted because of a defect in hearing; Dr. Holladay was requested to continue his examination work for Orange County, but Drs. Scott and Derby were accepted for examination.

American Red Cross Work in Russia.

The chief function of the Commission in Russia at this time it to attend to the medical and surgical needs of the army, in which work they are receiving the support of the Russian Public war relief organization. The Civilian Relief work in Petrograd and Moscow, which applies chiefly to the care of infants and children, appeals especially to the Russian soldier because America is helping his wife and children. Owing to the great scarcity of wholesome milk in Russia, arrangements have been made to ship one million pounds of condensed milk per month from America, for the nourishment of Russian babies.

The food situation in Russia is a problem that must be solved from within, for there is enough food to feed her army and people until another crop shall be raised. The trouble in this respect is failure of distribution, and the Commission is doing what it can to overcome this difficulty.

The Roanoke (Va.) Academy of Medicine,

At its annual meeting in October, elected the following officers:—President, Dr. Hugh H. Trout, Roanoke; Vice-presidents, Drs. R. M. Wiley, Salem, and R. H. Garthright, Vinton; secretary, Dr. E. P. Tompkins, Roanoke, (re-elected), and treasurer, D. J. H. Bogle, Roanoke, to succeed Dr. George Hurt, who has joined the army.

The South Piedmont (Va.) Medical Society,

Of which Dr. H. W. Dew, Lynchburg, is president, and Dr. George A. Stover, South Boston, secretary-treasurer, will hold its semi-annual meeting in Danville, November 20.

Dr. J. E. Rawls,

Of Lakeview Hospital, Suffolk, Va., after November 1, 1917, will limit his practice to office, hospital, surgery and general consultation work.

To Officers of Medical Reserve Corps, U. S. Army Inactive List.

Word received from the Surgeon General of the U. S. Army, conveys the information to officers of the Medical Reserve Corps, U. S. A., inactive list, that assignment to active duty may be delayed, and that they are advised to continue their civilian activities, pending receipt of orders. They will be given at least fifteen days' notice when services are required. This statement is made as quite a few physicians have been commissioned, who, pending the receipt of orders for active duty, have given up their practice.

The Association of Military Surgeons of the United States

Met at Ft. Benjamin Harrison, Ind., in October, at which time Dr. George A. Lung, medical director U. S. N., was elected president; Col. E. L. Munson, M. C., U. S. A., secretary-editor (re-elected) and Asst. Surg. Gen. W. C. Rucker, U. S. P. H. S., treasurer.

Dr. and Mrs. W. W. Bennett,

West Point, Va., were among those from that place, who attended the recent Sunday

School Institute of Rappahannock District in Gloucester, Va.

Dr. J. C. Wysor,

Clifton Forge, Va., was among those from this State who attended the meeting of the Clinical Congress of Surgeons of North America in Chicago, last month.

Appeal to Doctors to Volunteer.

A great number of itinerant medical examining boards of the War Department have been appointed for the purpose of bringing to doctors the opportunity of taking the reserve corps medical examinations nearer home. The board for Virginia, composed of Major J. Garnett Nelson and Lt. Jos. T. McKinney, both of Richmond, have visited more than a dozen of the largest places in the State and have secured a number of additional volunteers for the service. Addresses were given in each place by these doctors as well as by other prominent speakers.

In Richmond, Ex-Governor Montague gave a talk on the war which added much to the interest of the meeting, as did also a talk by Dr. Stuart McGuire. It was stated that for each 1,000,000 men, 22,000 doctors are needed, and there was a deficit of about 4,000 the latter part of October. It was noted that a large number of doctors are unable to pass the physical examinations. The fact was brought out that mortality among British doctors in the service had not been so great as was at one time indicated, there having been only 266 killed in three years, out of 12,000 in the service. Owing to the fact that there are so few doctors per capita in rural districts, an especial appeal was made to city doctors.

Virginia Doctors Commissioned.

On Novemver 3, the following thirteen Virginians who had passed the required examinations, received commissions as first lieutenants in the medical officers' reserve corps:—Drs. Archibald A. Barron and Samuel S. Cottrell, Richmond; B. B. Dutton, Winchester; George A. Renn, Norfolk; J. C. Dunford, Portsmouth; Gilbert O. Crank, Madison Heights; K. B. Steele, Charlottesville; George A. Noland, Ashburn; Edgar B. Noaland, Rectortown; Paul G. Parker, Hampton; Booker E. Rhudy, Elk Creek; Claude N. Rucker, Clifton Forge; and John F. Stover, Crabbottom.

Universal Military Training Recommended.

The Clinical Congress of Surgeons of North America at Chicago, October 25th, 1917, unanimously adopted the following resolution:—

Whereas: The experiences of the nation convince us of the necessity for Universal Military Training, to furnish qualified men for defense, to strengthen manhood and mental poise, and to make for a more efficient citizenship, and

Whereas: We believe it will democratize youth and furnish discipline, while developing physical force and endurance, and will produce better fathers and workers for the ranks of peace;

Therefore, Be It Resolved, that the Clinical Congress of Surgeons at its eighth annual session urges upon Congress at its coming session the passage of a measure along the general lines of the Chamberlain Bill for Universal Military Training, and that the cantonments now used by the National Army be utilized, if possible, for such work.

Similar resolutions providing for at least six months of intensive military training of all young men, upon arriving at the age of nineteen years, were also adopted by the State Committees (except Maine and Delaware) of the Medical Section, Council of National Defense, in Chicago, October 23.

Dr. and Mrs. Jose L. Hirsh

Have returned to their home in Baltimore, Md., after a short stay with friends in Lynchburg, Va.

Dr. Sherwood Dix,

Health Officer of Norfolk County, Va., has forwarded to the State Board of Health his resignation as he expects to join the Naval Reserves.

The Mississippi Valley Medical Association,

Which held its annual meeting in Toledo, O., in October, elected Dr. Francis M. Pottenger, Monrovia, Cal., president; Dr. Frank B. Wynn, Indianapolis, vice-president, and re-elected Dr. Henry Enos Tuley, Louisville, Ky., secretary-treasurer. The 1918 meeting is to be held in Louisville.

New Anesthetic.

The *Boston Medical and Surgical Journal* announces that a new anesthetic called nikalgin

is being used with much success on the European battlefront. It is composed of quinine, hydrochloric acid and urea. It was introduced by Dr. Gordon Edwards, of Leland Stanford University, a member of the American Ambulance Hospital Company in Paris, anl is being used in both the French and British hospitals with favorable resnlts. The notice further states that many of the soldiers are provided with small quantities to carry in their first-aid kits, as the action of nikalgin in relieving pain in exposed surfaces in wounds is absolute, and a local anesthesia is produced which lasts about three hours. The application may be renewed without harmful effects.

Venereal Disease Among U. S. Soldiers.

From reports received in the office of the Surgeon General of the Army, for the week ending October 12, 1917, venereal disease is shown to be more prevalent in proportion to numbers in both the National Guard and National Army than in the Regular Army. This shows the principal source of venereal infection is the civilian population.

Officers in Grand Commandery of Va.

At the ninety-fifth annual conclave of the Grand Commandery of Virginia, in this city, the latter part of October, Dr. R. P. Carr, Norton, Va., was elected deputy grand commander, and Dr. M. J. Payne, Staunton, Va., grand sword bearer.

Dr. Robert P. Kelly

Was re-elected physician for the Odd Fellows Home in Lynchburg, Va., for the year 1918, at a meeting of the Board of Trustees in October.

Dr. Samuel Saunders, Jr.,

Formerly of this State but who has been making field investigations for the U. S. Public Health Service, is now in Macon, Ga.

Dr. anl Mrs. R. Paul Jones,

Norfolk, were recent visitors to this city.

Married—

Dr. John Doherty Hinchman and Miss Mary C. Willis Donahoe, both of Rihmond, October 31.

Dr. Reuben Allen Parker, a 1917 graduate of the University of Virginia and now a 1st lieutenant in the U. S. Navy, and Miss Emily Carter Minor, University, Va., at an Atlantic port, October 20.

The West Virginia State Medical Association,

At its annual meeting in Fairmont, last month, Dr. Joseph E. Rader, Huntington, presiding, decided to hold its 1918 meeting at Berkeley Springs. The following officers were elected:—President, Dr. Samuel R. Holroyd, Athens; vice-presidents, Drs. Chas. O'Grady, Charleston, Wm. J. Judy, Belleville, and Chas. W. Waddell, Fairmont; secretary, Dr. J. Howard Anderson, Marytown; treasurer, Dr. Hugh G. Nicholson, Charleston; editor of journal of Association, Dr. Jas. R. Bloss, Huntington; and the following councillors, Drs. Henry R. Johnson, Fairmont; T. K. Oates, Morgantown; Chester R. Ogden, Clarksburg; Geo. D. Jeffers, Parkersburg; Jas. E. McDonald, Logan, and Horace L. Goodman, McKendree.

The Norfolk County (Va.) Medical Society,

At its annual meeting, elected Dr. Burnley Lankford, president; Dr. P. S. Schenck, vice-president; and Dr. W. W. Silvester was re-elected secretary-treasurer. All are of Norfolk City.

Dr. George A. Stover

Was elected chairman of the South Boston, Va., Red Cross Chapter, upon its organization in the late summer.

Dr. F. K. T. Warrick,

Of Richmond, who served with the Richmond Howitzers on the Mexican border last year, and is now with the 1st Virginia Field Artillery, has been appointed regimental surgeon with the rank of major.

Guide for Formulating a Milk Ordinance.

To assist communities in making their milk supply safe, the United States Department of Agriculture has issued a "Guide for Formulating a Milk Ordinance." This document, Department Bulletin 585, suggests a form of ordinance designed to protect the community against fraud and disease and to insure cleanliness in the production and handling of milk. Health officers and physicians interested in improving milk supplies may obtain it free on application to the department.

Dr. Samuel R. Holroyd,

Athens, W. Va., the newly elected president of the West Virginia State Medical Association, was among the prominent visitors at the Roanoke meeting of the Medical Society of Virginia.

Association of Seaboard Air Line Railway Surgeons to Have No Meeting.

Dr. Joseph M. Burke, chief surgeon of this road, after consultation with the executive committee of the Association, has announced that, owing to the war conditions prevailing, no meeting will be held this year.

Suicides in New York City.

According to the *Bulletin of the Department of Health of the City of New York*, suicide has been more frequent in that city since the outbreak of the European War in 1914, illuminating gas the most frequent means since the difficulty of securing poisons, and financial reverses the most frequent cause of suicide. In the past five years suicide has been more frequent among Germans than any nationality, native born Americans having the lowest suicide rate.

Dr. George Johnson,

A colored physician of Charlottesville, Va., formerly of Gordonsville, tendered his services to the War Department, and went up for examination on October 21.

The American Association of Clinical Research,

At its recent meeting in Boston, Mass., elected Dr. Marshall W. McDuffie, New York, president, and re-elected Dr. James Krauss, Boston, secretary-treasurer. The next meeting is to be held in New York City, in October, 1918.

The University of Virginia Hospital,

In its annual report, shows that during the year 1916-17, treatment was rendered 3,202 patients for 60,799 hospital days.

Dr. Thomas J. Stanley,

Bracket, Va., has just been appointed notary public by Governor Stuart.

Dr. William P. Gilmer,

First lieutenant in the naval medical corps, stationed at Quantico, Va., with the Sixth Regiment of Marines, visited friends in this city in October. Dr. Gilmer graduated from the Medical College of Virginia in 1916, at which time he was appointed one of the internes to Sheltering Arms Hospital, Hansford, W. Va.

The N. C. State Convention of Red Cross Workers

Held a two days' session in Raleigh, the first of this month, Dr. S. Westray Battle, of Asheville, presiding. Reports from county organizations showed most creditable work for nearly all the counties. Dr. J. A. Witherspoon, of Nashville, Tenn., was among the speakers, his subject being "The New Red Cross."

The American Association of Electrotherapeutics and Radiology,

Which is the name that the American Electrotherapeutic Association adopted for itself at its recent meeting, elected Dr. Frank B. Granger, Boston, president; Dr. Byron S. Price, of New York, secretary, and Dr. Emil Heuel, New York, treasurer.

Nurses Graduate.

The Lewis-Gale Hospital Training School for Nurses, Roanoke, Va., had its commencement exercises on the evening of November 8, in the Masonic Hall of that place. Five young women received diplomas of graduation at that time.

The Chesapeake and Ohio Hospital School for Nurses, Huntington, W. Va., had their commencement exercises on the evening of October 30, in the auditorium of Carnegie Library, that city. Likewise five nurses were awarded diplomas of graduation. Strange to say all of these latter were from Virginia.

Red Cross Christmas Seals.

The unusual importance of the coming sale of these seals is urged upon the citizens of the country to raise funds for the national, state and local campaigns against tuberculosis. The National Association for the Study and Prevention of Tuberculosis is after $3,000,000 this year. One of the great works of the Association at this time is to co-operate with the Medical Board of the Council of National Defense in combating the spread of tuberculosis among soldiers and sailors and their families, a condition which has become acute among warring nations of Europe.

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SYMPTOMS AND DIAGNOSIS OF DISEASES OF THE BLADDER.*

By E. H. MILLER, M. D., Danville, Va.

Pain, frequent urination, and foreign substances in the urine, namely, pus, blood, particles of tissue, etc., are the cardinal symptoms of a pathological condition of the bladder. Pain and frequent urination go hand in hand, for nature, in order to relieve the pain, empties the bladder, and the reverse is true, that emptying the bladder often causes pain by allowing inflamed surfaces to come in contact with some foreign body, or with the opposite side of the bladder, thereby causing a vicious circle, which condition is most distressing.

Pain (sometimes a blessing) often brings the patient to you, for this is a form of pain which the human body can scarcely endure, and is of such a nature that opiates have very little effect upon it. Sometimes the frequent urination is disturbing the patient's sleep and making his nights a horror to him, or he is, on account of this irritable bladder, rapidly becoming repulsive to society.

Once in a while you will have a patient come to you who has never had any bladder symptoms. He has had good control over his urination, with no pain or discomfort, when suddenly he notices that he is passing blood in his urine. This condition alarms him greatly, and he immediately seeks the aid of his physician; or some morning on arising, he discovers a deposit has formed in the urinal over night, usually of the "fatal brick dust," which he has heard caused the death of "John Smith." This may also cause him to seek the aid of his physician.

Any, or all, of these symptoms you sometimes meet; but what do they tell us?

Pain and frequent urination may come from many causes—infection, causing inflammation of various degrees from that of a simple infection of the staphylococcus to one of a gonorrheal origin; papillomas, from the benign to that of the most malignant; ulcers, from the simple form to that of a tubercular origin; stones, foreign bodies, tips of catheters, etc., by their presence, causing pain on motion; diverticulae, tuberculosis, etc. All of these give you the symptoms of frequent micturition and pain which the irritated nerves of the bladder are trying to relieve. How can a diagnosis of the different conditions be made?

1. By chemical analysis of the urine.
2. By a palpation of the female bladder with the finger, or with a sound introduced into the bladder, the latter either in the male or female.
3. By the use of the X-ray.
4. By the use of the cystoscope.

It should be the routine practice of every doctor, no matter who he is or where he lives, to examine the urine chemically of every patient who comes to him, whether it be for eczema of the scalp, or an ingrowing toe-nail, and you will be surprised how often this examination will reveal an unexpected condition. The urine should be tested for albumen, sugar, acidity, and specific gravity. This can be done by any doctor, but in disease of the bladder only the finding of albumen in the urine by the chemical test will be of interest to us here. This albumen may come from two sources—the kidney, or the bladder. If the kidney is suspected, a microscopical examination of the urine will have to be resorted to in order to clear the diagnosis, for when you have a disease of the kidney you have two

*Read before the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917, as a part of the Symposium on Diseases of the Bladder. The papers on Etiology and Pathology, and Surgical Treatment, intended to be a part of this Symposium, were not read, the respective authors being absent—on duty in the Medical Officers' Reserve Corps.

conditions which will give you albumen, namely, nephritis, or pyonephrosis. The former condition is differentiated from the latter by the finding of casts; if albumen be due to pus or blood, you will find in the field of the microscope the pus cell or blood corpuscle, the source of which can only be differentiated by other diagnostic means.

Often you will have given you a specimen of urine which you know, upon macroscopical examination, contains blood. This, of course, gives a positive test for albumen. The question then arises, from whence does the blood come. Authors tell us that if the blood is thoroughly mixed with the urine, the supposition is that it comes from the kidney. This is not always the case, for very often you have a small capillary which is oozing slowly into the bladder, giving the blood ample time to mix with the urine, and I defy anyone to make a positive diagnosis from a given specimen of urine containing blood and to say whether it comes from the kidney or bladder. So, in order to make a positive diagnosis in a case of hematuria, other means than chemical must also be resorted to.

In cases of cystitis which have been of long standing, and rather resistant to treatment, the urine should be centrifuged, the sediment strained in the usual way, and examined for tubercle bacilli. If they are not found, the inoculation of the guinea pig will often clear the diagnosis.

Tissue may be passed in the urine, which, under the trained eye of a pathologist, may be pronounced as malignant, or non-malignant, in nature. It may contain characteristic epithelium from the bladder, or kidney, in which case a diagnosis can readily be made.

Small stones may also be found in the urine, which may come from the kidney or from the bladder. If the patient is a female, you can make a vaginal examination, and if a foreign body is present, it may sometimes be felt through the bladder wall, but as a rule this is so painful that the patient will not submit to such an examination, except under general anæsthesia.

The examination for stone in the bladder with a stone searcher may prove of great value, though often in the hands of even the most experienced diagnostician this method proves a failure, for the stone, if one be present, may be deeply imbedded in the tissues or it may be so small that it floats around in the bladder and the characteristic click may or may not be detected. Many a bladder has been opened when this means of diagnosis alone was resorted to, and the stone failed to materialize at operation. Therefore, this is an uncertain method. How can this stone be detected? By the X-ray—a most common method of diagnosis at the present time. As a rule, all bladder stones will give a shadow, which, of course, is positive. It is possible that you may have a soft phosphatic stone which does not give a shadow, but this is an unusual condition, as almost every bladder stone contains an uric acid nucleus which always gives a shadow.

The best is always saved for the last, and so it is with the diagnosis of bladder complaints. In this I refer to the cystoscope, the findings of which are positive, and leave no doubt in the diagnostician's mind as to what the conditions are. This method of diagnosis is so common-place, that unless it is resorted to, one cannot treat a diseased bladder intelligently. Once in a while you have a case in which it is most difficult to carry out the examination, but with a little pains and proper technique, you can get very happy results.

Some bladders are very sensitive, especially if they have been irritated for a long time. These bladders should first be washed out with boric acid solution, and if the irrigation returns clear, a two per cent. novocain solution should be injected into the bladder and allowed to remain there five minutes, when the examination can be made without pain. Occasionally you find a tight sphincter or small canal. This has to be dilated, which can easily be done with patience and a solution of novocain, until the cystoscope enters the bladder readily. An enlarged prostate may prevent this examination, but when the gland is so much enlarged, the causes of the trouble is self-evident.

Once in a while you have a very small contracted bladder, which will not hold enough fluid to allow you to make an examination; this usually is the end result of an old tubercular condition, the finding of which is in itself diagnostic. The many diagnoses of diseases of the bladder which can be made with a cystoscope are most accurate and interesting.

I have been using a direct vision Ringleoscope, which I find most satisfactory, though

there are many others on the market which are equally as efficient. The instrument being introduced into the bladder, the dome is first explored. In this location the common pathological changes are usually benign or malignant growths, or ulcers. Where these growths are firmly attached to the bladder and present a cauliflower appearance, the diagnosis is easily made. If pedunculated and freely movable, the question of malignancy is sometimes doubtful. The non-malignant papillomas, as a rule, do not bleed readily, whereas the malignant growths do, when struck with the examining scope. If there is a question in the mind of the examiner as to the malignancy, a specimen can be easily obtained with a cystoscopic rongeur, and can then be submitted to a pathologist.

Ulcers present a depressed center, with ragged edges, and usually contain one or more capillaries which bleed easily on contact. These are the two pathological conditions found in this area.

The base of the bladder is next explored, and in this location you may find many pathological conditions. Naturally, any foreign body will settle to the base of the bladder, so in this location you find such substances as stones, or any foreign bodies, which may be in the urine. If a stone be present, it is most readily detected with a cystoscope. Stones may be smooth, mulberry, single or multiple. If smooth, the bladder wall may be perfectly normal. Sometimes the stone is imbedded and almost entirely covered by the bladder wall. Tumors of the bladder may occur in this location, but as a rule they are not found here except around the mouth of the ureter. Passing ureteral ligament which, followed in one diuretural ligament which, followed in one direction, leads to the right ureter on one side, and the left on the other.

This is the landmark for finding the ureters. Having found them, they tell many tales, especially as to the condition of the kidneys, and one is able from their appearance in many instances, as the writer has done, to make a diagnosis of a kidney condition, which has been later verified on the operating table.

As a rule, the mouth of the ureter is the seat of tuberculosis of the bladder. This condition manifests itself usually by the appearance of white pearly deposits around the ureteral opening. Sometimes you have the rosette ureter, which gives the appearance of a sunken cavernous opening. Again, ulcers may appear around the mouth of the ureter or, upon inspection, you may find pus dripping into the bladder from a diseased kidney. Either a tubercular condition of the ureter or pus from a kidney gives you a most violent and obstinate form of cystitis.

Sometimes you are unable to find the interureteral ligament on account of a projecting mass in the base of the bladder. This tumor in the male is usually a hypertrophied prostate, encroaching into the bladder space. In the female it is often found to be the cervix pushing the wall of the bladder upward, in which condition you are unable to find the normal landmarks of the bladder.

When you have a bladder which is unable to empty itself without extra effort on the part of the muscular element, due to prostatic enlargement, a narrowed urethral opening, etc., which has existed for some time, there results a condition of trabeculosis, which shows through the cystoscope the muscular bands of the bladder standing out in a ridge-like form, and between these bands the normal bladder wall is pressed.

This hypertrophied muscle, caused by the obstruction, increases the contracting power of the bladder to such an extent that there develop certain weak spots in the bladder wall, which give away under this force.

These dilated pouches are known as trabeculae, and contain urine; on account of the relaxed over-stretched walls, they are unable to empty themselves, giving the patient constant desire to empty the bladder, which they are unable to do.

The lateral walls are next explored, but, as a rule, show no pathological change, except a congested condition from an inflammation which may be present.

The normal sphincter presents a pinkish hue and, except for inflammation, is seldom diseased.

The thing that goes the farthest toward making life worth while,
That costs the least, and does the most, is just a pleasant smile.
The smile that bubbles from the heart that loves its fellowman
Will drive away the clouds of gloom and coax the sun again,
It's full of worth and goodness, too, with human kindness blent—
It's worth a million dollars, and it doesn't cost a cent.

—*Michigan Public Health.*

MEDICAL TREATMENT OF DISEASES OF THE BLADDER.*

By JOHN STAIGE DAVIS, M. A., M. D.,
University, Va.
Professor of Practice of Medicine, University of Virginia.

I find myself in an anomalous and doubly embarrassing position in thus appearing before you on this symposium to discuss the medical treatment of the diseases of the bladder.

First, I belong to the Council, most unworthily, I admit, the body charged with the duty of nominating the slate for this service, from which I thought its membership constitutionally excluded. It looks as if I had manipulated my position thereon to secure this honorable post, but I must say that the nefarious deed was done in my absence and positive notice of the crime, thereby perpetrated, served on me only last June, when it was too late to make a transfer or protest effectively.

Secondly, the bladder is regarded as surgical territory, and its proper therapeutics belong to that department, so that there is scarcely any such entity as "medical" treatment for its ills. It looks as if I were self-appointed to talk about nothing, surely a ghastly situation, which I must meet as best and as briefly as I can by degenerating, I fear, into a text-book salad. There is practically nothing new in the last few years. I have but little experience to draw on and literature is not abundant.

The prevention of infection, especially in the unconscious and seriously ill, is a most important phase of the treatment, and this will be so fully discussed by my eminent colleague that I will omit further reference to it, except to reiterate our special enemies—coli, pyogenic cocci, tubercle, gonorrhoea, and the relationship of the prostate and bowel to the spontaneous origin of cystitis. Constipation must be relieved and urotropin (more ethically called hexamethylenamine) pushed. The details of astringent, aseptic, diluent, and germicidal irrigation, of which Bulgaricus Emulsion is now an honored member, in both acute and chronic inflammations, belong to surgery just as much as cutting procedures. Appropriate vaccines may be employed but have been rather disappointing in my experience.

The *functional neuroses* of the bladder more properly come under the physician, and to such I shall, in the main, briefly devote myself. These are conveniently divided by Keyes, into, first, incontinence, which is both spasmodic and paralytic; second, hysterical dysuria, direct and reflex; third, retention.

Enuresis is the familiar and inconvenient association of infancy, and becomes pathological only after three years of age. It is usually nocturnal but not invariably so, as everyone perhaps recalls a few intractable cases that persist even in the day time. It is of a spasmodic nature, though there is also a paralytic type. In the former the discharge is complete; in the latter it dribbles, and is usually due to an organic defect.

In childhood, without congenital or structural deformity, it is strictly a neurosis, the result of hypersensitiveness of the centers of micturition in the cord with deficient cerebral control, or is a symptom of various pathologic conditions of the urinary and other organs. It is more apt to occur at night, as already stated, when cerebral influence is in abeyance, but may be diurnal when a child becomes so engrossed in play as to permit over distention and consequent involuntary reflex evacuation. The persistence of the infantile mechanism of urination is the basis of the matter, but the truly idiopathic or essential cases diminish on thorough history and examination, as some genuine pathological condition will often be found responsible. I am told that in dispensary practice many children thus afflicted give positive Wassermanns.

Jennings gives the best enumeration of the causes and their relief:

1. Hygienic. Children neurotic by training or heredity are the chief victims, and many causes conspire. Bad training, excessive intake of fluid, faulty dietary, and sometimes masturbation, are all concerned. To meet these, early control of the bladder must be inculcated, and children taught to make known their desire to empty it. Carelessness in this respect is the most serious cause of the persistence of incontinence which should cease by the end of the second year for nocturnal cases and by the tenth month for diurnal ones. Faulty diet is the next most important factor, especially when the habit is resumed or gets worse after four or five years of age. Two many night clothes and obstinate sleeping on the back are occasional influences. Constipation, flatulence with chronic intestinal indiges-

*Read before the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917, as a part of the Symposium on Disease of the Bladder.

tion cause an irritating urine which has to be evacuated imperiously and informally. Excessive sugar is the worst and most common dietetic cause, as mistaken kindness offers these little unresisting victims candy and sweets most abundantly and unwisely. In one family of my experience the disorder is epidemic up to twelve or fourteen years of age, chiefly because of the unrestrained indulgence in candy and malted milk. Simply cutting out sugars has been effective after despair had been felt. Protein excess is rarely to blame, but every case should have a carefully prescribed dietary. Excess of fluids, especially at night, may be responsible, but should not be reduced below physiological requirements. All food should be bland and no stimulating beverages permitted. Self-abuse should, of course, be stopped.

2. Urinary changes include variations in quantity and frequency, hyperacidity, alkalinity and bacilluria. Any one of these may be the exciting factor, and sometimes may require an unusually careful urinalysis for detection. Polyuria from excessive fluid may provoke an outbreak, but is sometimes due to diabetes mellitus, to which my attention was first directed by this symptom in two cases lately. Hyperacidity requires dietetic restriction, especially in protein, and the administration of alkalies, such as citrate of potassium with tincture of hyoscyamus. Alkalinity is rarely responsible, but indicates benzoic acid or salol and the reduction of starches and sugars in the food. Bacilluria, especially when due to colon infection, is not uncommon, and requires urotropin with vaccines in obstinate cases. Ten million germs is a suitable dose for a child of five years, repeated at intervals of four days for several doses, and gradually increased to fifteen million. Urotropin requires an acid reaction for its effect, so that some benzoate or acid phosphate should be associated for the best results if the urine is alkaline. This restriction is said not to be felt by helmitol (hexamethylentetramine—anhydromethylen citrate), which otherwise resembles urotropin but is more powerful, according to Hare's latest therapeutics. They may both be profitably put into keratin capsules to avoid deleterious influences in the stomach and so conserve their effectiveness for the urinary tract. Bowel irrigations twice weekly are desirable to keep down the excessive production of germs in the rectum from which the female bladder especially can be readily and repeatedly infected.

3. Diseases of the urinary and pelvic organs. An undeveloped bladder is a rare cause, the organ not having its capacity trained, and so there is both diurnal and nocturnal incontinence. In inveterate cases in girls increasing injections of indifferent fluids followed by forced retention for a while may increase the capacity, but in the two such cases that I have recently had I was not impressed with the efficacy of the procedure. Atony of the sphincter vesicae may exist in feeble children convalescent from acute illnesses, and vic tims of chronic nutritional disease. It rarely exists alone and is hard to demonstrate. Electric applications of direct or indirect currents have been recommended—a flat electrode over the lumbar or suprapubic region and the other small one over the perineum. Sometimes a vaginal, urethral or rectal electrode is indicated. Very mild currents must be used, as the patient is easily frightened or hurt. Strychnine and ergot are recommended, especially in the diurnal cases, but are rarely effective.

Excessive irritibility may be simply nervous but usually indicates some infection along the urinary tract and may persist some time after the cause has been removed, thus proving very puzzling. Vesical sedatives, like belladonna or hyoscyamus, are indicated, with rest in bed and elevation of the hips so as to keep the urine from accumulating on the sensitive trigone. Redway, in the January number of *American Medicine*, 1917, gives another possible mode of action for belladonna. He quotes Stewart and others as considering that urination has higher representation than in the spinal cord, perhaps in the thalamus, and attributes the long recognized effect of this agent in these cases to its mydriatic and cycloplegic influence. It has to be pushed to its full physiological action for sure results, according to all authors. The connection between the thalamus and the eye is invoked to support the theory of the higher urinating center there. Myopia does not exist in the newly born, but hyperopia and astigmatism are common (passing away normally at three years, though it may persist in the vagotonic), so that belladonna may relieve the condition by the removal of an ocular source of reflex

irritation to which the youthful bladder is very sensitive. This does not mean that spectacles would supersede diapers or must be stuck on all babies, but in those cases beginning or aggravated when the eyes are first used at school, an oculist should certainly be consulted. He cites five completely successful cases of his own and quotes eight others from literature, ascribing the original glory to Gould.

Education of the bladder to endure increasing distention, and irrigation with sterile salt or boric solution are useful measures here as before. Some cases of genuine gonorrheal cystitis are seen in even young children with enuresis and require the recognized specific therapy. Vesical calculi should be kept in mind as a rarity, and are generally associated with dysuria. Adherent prepuce or clitoris in respective sexes may be the local irritant that maintains the hyper-excitability of the micturition reflex. The treatment is surgical primarily, but must be followed by measures directed to the neurosis, as cure will not be complete or permanent otherwise. Pin worms, rectal polypi, fissure in ano, irritation of neighboring skin, and constipation are all concerned, the first and last mentioned quite frequently. An enema at bedtime is very salutary for the discharge due to constipation. In the absence of mental deficiency, the diurnal cases are usually due to severe irritation along the urinary tract and contiguous structures. Dysuria is almost always the result of local conditions, being associated once in my experience with uric acid gravel in abundance, which felt like molten metal in its expression, and was relieved by sodium salicylate. Pyelitis must be excluded.

4. Diseases of Remote Organs. Adenoids and hypertrophied tonsils have probably been too much blamed, for relief does not follow operation alone if hygienic training is not also instituted and the nervous system looked after. Chorea, epilepsy, and diabetes of both kinds should be excluded. Williams, of London, is enthusiastic about thyroid extract for this condition based upon the idea of a lacking internal secretion. Thyroid insufficiency is suspected in undersized children who are easily chilled but not always stupid and so not real cretins. Such should receive one-half grain desiccated thyroid morning and night, gradually increased to three grains a day in three doses. Improvement is to be expected in two or three weeks. Eye-strain and the glories of belladonna in that connection have already been sufficiently extolled. In general, rewards are better than punishments, and the psychic effect of reassuring children on retiring that you know they are not going to wet the bed is worth while, as I can personally testify. Smith, of Boston, (*J. A. M. A.*, October 10, 1917), considers obscure nervous disorders oftener to blame than has been supposed, and cites cases of syringomyelia, multiple sclerosis and alcoholic neuritis first indicated by bladder symptoms.

The ordinary routine is too familiar to require detail, but may be summarized by—encouragement, no fluids after 4 P. M., waking at adult bed time to void, and the relief of nervous tension. I reiterate the importance of careful dieting. A knotted towel under the back may prevent an objectional dorsal decubitus. Belladonna (or atropine), and hyoscyamus are almost routine measures to allay irritability, but may act, according to Redway, in an unusual manner. Five minims of the former three times a day in increasing doses until the face flushes, and then kept at that for a fortnight is the usual method. Hyoscyamus may replace belladonna in double the dose when there is infection of the tract. Rhus aromatica fluid extract, five to ten drops to a child of five, is lauded by Freyberger when belladonna fails. Epidural injections of saline solution into the sacral hiatus at the lower end of the cord are no longer fashionable. Ten c.c. of a special solution consisting of sodium chloride, cocaine and sterile distilled water are slowly injected and gradually increased to twenty c.c. in five to ten doses at intervals of two to five days. I have never tried it. Hypodermics of sterile water about the perineum and labia have been employed but not very successfully in my experience. Hypnotism has its advocates but, as Jennings states, "confidence in the results of a favorite measure unconsciously brings to bear a strong suggestive influence that is an efficient aid in restoring the nervous balance of a pathological reflex mechanism." Pure hypnosis has a very restricted field in this trouble. Constitutional deficiencies indicate appropriate tonics, syphilis and some nephritides especially.

Paralytic incontinence may follow diphtheria, prolonged pressure of childbirth, or spinal cord lesion, but is chiefly due to tabes. Salvarsan may relieve the latter, and time, with

tonics, the two former. Enuresis shows a strong tendency to spontaneous cure after the seventh year, when the balance of the nervous system is fairly well established. In some neurotics the habit is inveterate and long training will be necessary to break it even when all exciting causes have been removed. Never undertake a case unless the intelligent and active co-operation of the mother is assured. Some children, when otherwise improving, yield when dreaming that they have reached an appropriate receptacle. This is encouraging, as sleep is not so profound and they may finally wake up enough to attain the fancied haven. About ninety per cent. of cases are idiopathic, according to Kerley (the great lights are not consistent on these proportions), and are to be ascribed to a neurosis. There is a lack of development, a weakness of the vesical sphincter, and a lack of co-ordination in the sympathetic control of micturition. Full medicinal treatment must be maintained until two weeks after apparent recovery and then reduced one-half, which should be kept up for six weeks with the dietetic regulations in complete force for at least three months longer. Some authorities maintain that you cannot be sure of a cure for a year or more.

Spasm of the bladder is usually hysterical and intermittent. It is due to the nervousness of women who have once had an acute overfilling and are unconsciously afraid of repetition. Here bromides are indicated, preferably the strontium salt. This condition may also arise from tumors in distant parts or other removable reflex sources, as was described by Cecil, last winter. Hot baths, hot compresses or the sound of falling water occasionally prevail upon the obstinate, and changes of attitude or the removal of critical witnesses are salutary to the nervous. Urotropin in very acid urine is occasionally responsible for strangury and may cause blood and albumen to appear. The catheter cannot always be avoided, but should be employed as rarely as possible and, of course, with rigid asepsis. When resorted to in hysteria, it is hard to get away from, and despite the utmost care, may set up a cystitis. Retention due to mechanical causes, such as gravel and blood clots, is a surgical affair.

Practically all other diseases require surgical measures, though Dellingham, of California, recently reports fifty cases of cystic tuberculosis clinically cured without operation, but he does not mean without mechanical local application.

Vesical hematuria is amenable to medical treatment only when it arises in the anemias, hemophilia, purpuras, or scurvy, of which last it may be the first and sometimes the only symptom, and then yields promptly on the constipation theory of that condition to purging and lime juice, but, as tumors, calculi and tuberculosis are much more commonly responsible, I am not disposed to dispute this field further with my colleagues, the surgeons.

INDICATIONS AND CONTRAINDICATIONS FOR OPERATIVE INTERFERENCE IN SEVERE HEAD INJURIES.*

By R. L. PAYNE, Jr., M. D., F. A. C. S., and H. J. HAYES, M. D, Norfolk, Va.

In almost every instance an advance in medicine is met on the one hand by enthusiastic approval and recognition, while on the other hand there are those who fail to admit or to obtain like results by the same methods. We can readily see the reason for these divergent views. With only a few cases one observer may obtain very favorable results, while with another group of cases little if any improvement may be obtained by another observer. Proper selections of cases which depend on a correct interpretation of the signs and symptoms present are largely responsible for the divergent views.

While the subject which we are bringing to your attention has been given much thought recently, we feel that there are still many patients who die of medullary failure, this being due to increased intracranial pressure resulting from severe head injuries, without being given the chance which operation affords. On the other hand, we are sure that there are patients operated on in the period of shock whose chances of recovery would be much greater if their true condition had been recognized and the operation deferred until recovery from shock had occurred.

Depressed fractures and those showing focal symptoms are recognized generally as indications for operations. We feel that the signs of increased intracranial pressure as evidenced by changes in pulse rate, in blood

*Read before the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917.

pressure, in spinal fluid pressure, and the eye grounds should be regarded as focal symptoms.

Viewing these symptoms as focal signs, the changes may be so slight that interference is not called for, the symptoms being mild and of short duration. On the other hand, there are many other cases in which the pressure reaches a point so high that this determines a fatal issue if not relieved. This mechanism, increased intracranial pressure causing medullary failure, is the cause of death in a large number of those unfortunate individuals who die under so-called observation in our emergency hospitals. We do not deny, however, that some of these patients have sufficient brain trauma to cause death regardless of the measures used in treatment. In view of the above possibilities, we feel that it is most important to follow all cases of head injury, not dismissing those mild cases without a careful examination and observation, and not looking upon the severe cases as hopeless because they fall into the class of cases commonly called basilar fractures. We feel that a number of those individuals who survive the shock and recover without operative interference, though this is indicated, do so with an increase of the intracranial pressure which manifests itself by causing headache, nausea, vertigo, immediately following the injury and an interference with their capacity for work in the future. Changes in character have been noted in these patients long after their injury. Our opinion is that these patients should be operated and drained as soon after the injury as practicable, though they might without operation *apparently* recover with their lives.

In estimating the value of operative interference for relief of increased intracranial pressure, there are two types of cases which should be excluded from our final results, those in which the destruction of brain tissue is great enough in itself to determine the fatal issue, and those who die in the stage of initial shock. Neither of these types should be considered as coming within the operative realm.

The period of shock varies in the individual case. Our opinion, which is based on personal observation of this work for a period of 9 years, is that any severe head injury living for six hours after the injury should be carefully studied to determine whether operative interference is indicated. The outcome of the case depends entirely on the ability of the operator to determine the time at which recovery from shock has occurred and before the medulla has been subjected to such pressure as will in any way interfere with its integrity. The length of time the medullary centers will be able to stand the circulatory changes secondary to the increased pressure no one can say. While there are a few deaths that result from operation during the initial period of shock we feel that the tendency is to defer operation and thus expose the medulla to an increase in pressure, which determines the fatal outcome in a large number of these cases.

Careful study of the individual patient with especial attention given to the pulse rate, blood pressure, spinal fluid pressure and eye grounds, will enable us to decide as to the advisability of operative measures. During the period of shock, which invariably follows severe head injuries, we have an increase in the pulse rate, this increase varying with the degree of shock. Provided the patient does not die in shock, a record of the pulse rate will show a decline to normal or usually below this, frequently as low as 40 to 50. We should earnestly consider operative interference when a pulse of 100 falls to 60. A more decided drop which is invariably accompanied by the other changes noted below, calls for immediate relief of the increased intracranial pressure.

Blood pressure studies in these cases are interesting and valuable, much more valuable in these acute cases of increased intracranial pressure than those in which the change in volume of the cranial contents is measured over months, as is the case in cerebral neoplasms. Following the injury and during the period of shock we find the blood pressure rather low. As the patient recovers from the initial shock the blood pressure rises for a time,—proportionate to the increase of intracranial pressure. With a slight increase in the spinal fluid pressure, the general blood pressure does not go above the normal limit, but given a decided increase in the spinal fluid we get an elevation of the blood pressure which tends to supply the medullary centers and prevent failure of the vital functions. Should the blood pressure readings show a secondary drop after the period of shock we feel that operative measures are of little value as, at this time, the medullary centers have been subjected to a

pressure sufficiently high and continued over a period long enough to determine their failure.

The pressure reading of the spinal fluid also aids us a great deal in these cases. It is difficult to fix any point at which operation should be done, but where there is a reading of over 12, accompanied by other signs of increased pressure, we feel that operative measures should be carefully considered. There have been deaths reported following spinal puncture in these cases but we feel that these unfortunate occurrences can be prevented if the proper care is exercised in doing the puncture. In those cases in which the pressure is very high, withdrawal of small quantities of fluid with the foot of the bed elevated will prevent any untoward symptoms.

A careful study of the eye grounds is most important in these cases. We should not wait for a well marked papillœdema before deciding to operate as the fatal issue would frequently occur before a decision had been reached. Any blurring of the margins of the nerve head when accompanied by the other signs noted above should be considered indicative of increased pressure. Blurring of the nasal margin of the optic disc with engorgement of the veins is an early finding in these patients. This condition may be found in only one eye, the other showing little or no change.

We do not feel that the operator should wait for all the signs mentioned above to be fully developed before deciding to operate, varying combinations of these, such as a slow pulse with an increase of the spinal fluid pressure, or a slow pulse with a step-like rise of the blood pressure after the initial shock and a blurring of the optic disc, should be sufficient to establish the diagnosis of increased intracranial pressure. Once the diagnosis has been established, operative interference should be carefully considered. Our experience has been that many more patients lose their lives from deferring operation until the medullary centers have succumbed to the continued pressure than from operations performed too soon after the injury.

ERRORS IN THE TEACHING OF HEREDITY.

By CASPER L. REDFIELD, Chicago, Ill.

"To the biologist the proper study of mankind is plants and the lower animals. Biologists accordingly make comparatively little experimental use of man himself in investigating the fundamental principles of life."

The above statement appears in the *Journal of Heredity*, for March, 1917. It is by Albert F. Blakeslee, who is connected with the Carnegie Institution, of Washington, and who is located at Cold Spring Harbor, Long Island, N. Y. It is selected for quotation partly because it is very recent, and partly because it is a good illustration of the misinformation which biologists are giving to the public.

The thing to be noted in that quotation is the statement that biologists do not make direct investigations as to what occurs in man, but only what occurs in plants and the lower animals—the lower the better in their view. The article is entitled "Corn and Education," and the author undertakes to demonstrate the effects of education in human beings by showing what happens in what he calls "educated corn." The way he educates his corn is to strip back the husks and permit the growing kernels to become sun burnt. His argument is that because the next generation of corn will not be sun burnt if it is kept covered, therefore there is no advantage in a man having an educated grandfather. Having reached this conclusion, he goes on as follows:

"Education is merely a stimulus like light that does not create nor change the real nature of an individual, but only reveals the powers within. It follows, therefore, that no amount of exercise of mental or physical powers of parents—in other words, of education—can directly affect their children."

That argument may be good among biologists and voodoo doctors, but there are some objections to it. One is the failure to distinguish between *getting* an education and *being* sunburnt—between striker and strikee—between the active and the passive. That failure to distinguish between what occurs in the muscles or brain of the animal which acts from what occurs to the animal, plant or stone which is battered vitiates everything the biologists have to say on the subject. Brain and muscle are developed by exercising them, but a sunburn on a kernel of corn is no different in essence from what occurs on a photographic plate or other non-living substance exposed to light.

If the reader has any doubts about the distinction here pointed out, he can easily determine the facts for himself by a direct in-

vestigation of education itself. All that will be necessary for him to do will be to trace descent from parents and grandparents who were educated in different degrees. If he will do this he will quickly learn that tracing heredity from sunburnt corn gives one result, while tracing it from organs developed by exercise gives an entirely different result.

There are many ways of definitely determining that educating the parents improves the heredity of the children, but they all involve doing something which the biologist never does. That thing which the biologist does not do, and apparently does not understand, is determining, approximately at least, the extent to which the parent was educated at the time the child was conceived. That brings up the question of measuring education quantitatively.

Education is not a thing which is obtained instantly. It is a mental or physical development acquired by long continued effort. Time is, consequently, a factor in determining the amount of education acquired, and that factor may be determined by the age of the parent at the time the child was conceived. For convenience, we may take the age of the parent when the child was born, as this is readily obtained from ordinary records. The other factor in measuring education is determined by learning how hard the parents worked before reproducing. Historical records will often give information on this point, but in the absence of such records we may assume that education is acquired uniformly, and represent it by age alone. In a single case this would lead to uncertainty, but in a large number of cases, errors in opposite directions would balance each other and leave the age at reproducing a fairly accurate index of the amount of education acquired.

One way of testing the effect of educating the parent is to take some man who had several sons, and whose sons in turn each had several sons. This would include a considerable number of grandsons of the first man, those grandsons being born at various dates over a period of from twenty to fifty years. By then comparing those grandsons with each other and with the number of years elapsing between the birth of their grandfather and their births we can estimate the effect of years of education upon parent and grandparent.

This was done for forty-eight grandfathers who had a total of 506 male-line grandsons. In these forty-eight groups, the last grandson born in a group became a prominent man more than three times as frequently as the first born grandson of the group. Furthermore, the last ones, born the greatest lengths of time after their grandfathers, averaged much higher in the degree of their prominence than did those born the least length of time after the grandfather. It would be interesting to know how a biologist can explain that relationship between extra education in the parent and superiority of the offspring by consulting the color on a kernel of corn. It is to be observed that in each group the descent is from the same grandfather, and that the only noticeable difference between the first and last is the amount of education acquired by father and grandfather before reproducing.

On the results of educating the grandfather some definite and precise facts were obtained by investigating the breeding of the American trotter. There have been several hundred thousands of those horses, every one of which has received some education at the trot, even if it has been very small in most cases. The number of stallions used for breeding is considerably less, still more than forty thousand of them have been registered, to say nothing of the unregistered stallions used for breeding purposes.

If we should pick out the one stallion which, in all horse history, had been educated at the trot more than any other stallion, and then should pick out the one stallion which, in all horse history, was the greatest grandsire of fast trotters; what are the chances that the same horse would be selected in both cases? Yet the horse George Wilkes fits both these cases. He was kept out of the breeding ranks and on the race track until he was seventeen years of age, and the small number of offspring he did get were got in his remaining few years of life. In the pedigrees of the first 180 horses to trot a mile in 2:10 or faster, George Wilkes is grandsire or great-grandsire 109 times, and far outranks any other horse.

Each and every one of those 180 horses was a very remarkable animal descended from stock which was much inferior a hundred years previous. I have personally written out the pedigrees of each one of these 180 animals and have looked up the ages at reproduction of their sires and dams, their grandsires and granddams, their great-grandsires and great-

granddams, and so on back for five generations in full, and for seven or more generations in main lines. I have also personally looked into the individual histories of those sires and dams, those grandsires and granddams, etc., for the purpose of determining how they were educated and to what extent. That investigation covers precise facts in regard to the education of more than five thousand of the sires and dams, grandsires and granddams, etc., in the pedigrees of those 180 trotters. The facts found in those pedigrees I have personally compared with the facts involved in general horse breeding. Those facts and that comparison show that we never get improvement in the trotting power of horses from generation to generation in any other way than by educating the parents at the trot. The man who says that there is no definite and positive evidence to demonstrate that education of parents affects offspring through the germ, is stating a falsehood for which there is not a particle of excuse. I am charging the biologists with giving out false information in this matter, and am ready to back that charge in any court. However, my object is not bluff. It is an effort to get accurate information to the public. For them to get that information they must know how and why other things are inaccurate.

The exact facts about the evolution of trotting power were published during 1902-3-4 and 5, in *The Horseman*, *The Horse Review*, *The Horse World*, and other journals devoted to the trotter. The facts thus presented passed through the fire of criticism by experts and were acknowledged to be correct. Those facts have since been condensed and discussed in "Dynamic Evolution," published by G. P. Putnam's Sons, New York.

In face of the published facts acknowledged by experts to be correct, biologists have repeatedly given out as science, absurd and false statements about the trotter and the manner in which he has been bred during the past century. Why any man professing to be a scientist will do such things is past comprehension. However, I intend to follow this matter until the facts are known.

525 *Monadnock Block.*

Those who look for trouble are apt to find fault.—*Exchange.*

Men with money can keep their friends by not lending it to them.—*Exchange.*

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL SOCIETY.

Reported by EM'L MAYER, M. D., New York, N. Y.

(*Continued from page* 385.)

Stereoscopic Roentgenograms of the Head.

By J. M. INGERSOLL, M. D., Cleveland.

The longer we have used the stereoroentgenograms, the more certainly have we been convinced of their practical value, for they give us definite information in regard to the nose and the nasal accessory sinuses, the brain and many of its blood vessels, the ear and the mastoid, which cannot be obtained in any other way. The size and boundaries of the maxillary and frontal sinuses can be distinctly seen. If there are any septa, tumors or foreign bodies in these cavities, they can be accurately located and defined. The ethmoidal and sphenoidal sinuses overlie each other, and are thus somewhat masked, but their position, relative to each other and the orbit and the other surrounding structures, can be clearly distinguished.

Skill in interpreting the roentgenograms can be more easily acquired by the surgeon than by the roentgenologist, for the surgeon has the decided advantage of being able to verify and correct the findings in the roentgenogram while he is operating. If the surgeon will carefully study the stereoscopic pictures before operating, compare his interpretations of the picture with the condition which he finds in the operation, and then study the picture again after the operation, he will soon acquire great skill in interpreting the stereoscopic plates.

In studying stereoscopic plates they should be examined from both sides. First, put the plates in the stereoscope with the film sides toward the mirrors. This will show the structures as we see them in the operation, with the external parts in the foreground and the deeper structures in the background. Then by reversing the plates in the stereoscope, turning the smooth sides of the plates toward the mirrors, the structures will be seeen from the inside of the skull.

The technic for making stereoscopic anteroposterior radiographs through the frontal sinuses is described, as also the technic for making stereoroentgenograms of both mastoids on a single pair of plates.

These plates, when developed, are placed in the stereoscope, with the one having the right eye images in the right light box of the stereoscope, and the one having the left eye images in the left light box. With the glass side of the plates turned toward the mirrors of the stereoscope we view the mastoids from the inside of the skull, while with the film side of the plates placed toward the mirrors we view the mastoids from the outside of the skull.

DISCUSSION.

Dr. Robert C. Myles, New York City: Dr. Ingersoll has demonstrated it is much better than most of us believe it to be, and the topographic anatomy is shown better by this method than by any I know.

Dr. Hanau W. Loeb, St. Louis: It is really amazing how much more one gets to know about his work by studying one after another of the stereoscopic plates in every case which shows a disposition toward suppuration in any of the sinuses. It makes a man much better, even if he does not find in any particular case any essential value in the exposure. Taking the whole thing together, he develops an understanding of the subject far beyond what can be obtained by any other method.

The beauty of this work is that you can look at a case from before backward, or behind forward, by simply turning the plate around.

Dr. Lewis A. Coffin, New York City: I just want to say in regard to the stereoscopic picture that there is no question but that more interest and more knowledge is to be gained from it. We must remember, however, that a doctor often sends a patient in from twenty, forty or fifty miles, and unless he can come down where we have such an apparatus he cannot see the results. There are times, therefore, when he must put up with the other picture, which is more or less helpful. We cannot always have the stereoscopic roentgenograms.

Lantern Slides Showing Normal and Diseased Sinuses of Children From One to Fifteen Years of Age.

By LEWIS A. COFFIN, M. D., New York.

Dr. Lewis A. Coffin showed a double series of slides from X-ray plates of children's heads from one to fifteen years of age, one series showing normal and the other diseased sinuses. He said that one of the interesting things connected with the getting of the plates was the fact that nearly all the plates showing disease had been obtained from X-raying the heads of children from an eye ward of the Manhattan Eye, Ear and Throat Hospital without selection, that practically any case in that ward showed sinus disease, and he believed that this was strong presumptive evidence of the dependence of many eye conditions on the diseased accessory sinuses.

He called attention to the frequent involvement of the antrum, and stated that in this condition he saw the frequent cause of atrophic rhinitis and practically the universal cause of true ozena.

DISCUSSION.

Dr. James E. Logan, Kansas City: There is no question in my mind but that sinuitis results in atrophy—that is, the cases are usually pre-existing sinuitis cases.

Dr. Robert C. Myles, New York City: I have never been able to find anyone who had seen a case which occurred after puberty—that is, anyone in authority. It is essentially a disease of child life. How much of it is retarded development and how much atrophic is another question. The most serious question is, how should we operate on the sinuses of these children; what is the best procedure? That can be developed in the future, I think. In regard to patients who are older, it has been my experience that at any age I get my most brilliant results, with regard to odor and continuance of discharge, by opening the antrum.

Dr. J. M. Ingersoll, Cleveland: I simply wish to ask Dr. Coffin whether these patients were operated upon endonasally or through the canine fossa, and what results were obtained.

It seems to me that we should not consider here the question of atrophic rhinitis. If this is to be a discussion on the origin of atrophic rhinitis, may I ask how it is that the orbital fissure from the anterior half atrophies also in the process? There is no sinus opening into that district.

Dr. Henry L. Swain, New Haven: Dr. Coffin has come to us with the most astounding assertions. I understand he has come with the proposition stating that he thinks he has further evidence of the origin of atrophic

rhinitis in children. Then he comes forward with the statement that he thinks he can cure odor by opening up the antrum, and in his remarks he presupposes that these diseased antra began in childhood, produced atrophic rhinitis, and continued through years of life. Then he states he cures atrophic rhinitis of at least the odor by opening up the antra. I think those are rather bald statements and would like to hear them commented upon. Personally, I have examined his statements and believe he is right.

Dr. J. L. Goodale, Boston: Dr. Coffin will have an opportunity for further elaboration of that point. It is in order for any member to ask questions regarding further information from Dr. Coffin.

Dr. Hanau W. Loeb, St. Louis: This so-called purulent rhinitis which was described so well twenty-five years ago or so, is exceedingly common, and from the fact that the nasal mucosa is affected, it is easy to understand that any of the sinuses more directly connected with the nose in childhood than in adult life should be similarly affected. If the mucosa of the antra is thickened in an existing case of suppurative rhinitis, it is very natural that it should show on the screen. That explains, to my mind, the reason that in so many of these cases Dr. Coffin was able to find evidence of obscuration of the antral fistula. However, this is an exceedingly common condition, and as atrophic rhinitis is fairly uncommon, he should explain why it is that so many get well without the production of atrophic rhinitis.

Dr. Burt R. Shurly, Detroit: I should like to ask Dr. Coffin how extensive is the operative procedure following this particular line of invasion.

Dr. Norval Pierce, Chicago: I am sure that some of these pictures are misleading. Last winter I had two cases—children ranging from four to six years—where the roentgenologic picture, according to the readings of the roentgenologist and myself, showed anterior disease —in one case bilateral, and in the other case lateral. I washed out three of these antra (in one case I washed it twice), and nothing whatever was washed out. They were quite dry antra. There is no doubt but what they were dry. In the past I have had a similar experience to that, where the discharge from the nose led me to have an X-ray taken, and where the roentgenologist said that the sinuses were undoubtedly diseased, but which were found healthy. So that we must check up these cases of supposed disease of the sinuses by other means than the X-ray.

Dr. Robert C. Lynch, New Orleans: Down South we see a number of cases of atrophic rhinitis, and I have two children of the same family, twins, two and a half years old, perfectly well developed cases of atrophic rhinitis. I wonder whether they have lived long enough to go through the period of inflammatory changes to give them atrophy. I do not think they are due to simple sinus disease.

Dr. J. M. Ingersoll, Cleveland (closing the discussion): We get new ideas in regard to the anatomic relations from the stereoscopic pictures, because we get the three dimensions. In regard to the use of stereoscopic radiographs, I think that unless a man uses them long enough to become familiar with them, and develops some skill in interpreting them, they are liable to stop using the method. If they do study them and check up the findings, I am sure they will become convinced of their value.

Dr. Loeb spoke of the value of reversing the plate. One of the great advantages of the stereoscopic plate is that you can look at it from both sides—that is, you see the structures in the operative field, and also from the inside, which you cannot see in any other way.

Shadows over the accessory cavities in the X-ray, whether stereoscopic or other plates, makes one suspicious of involvement of the sinuses of the nose. I regard them simply as one of the confirmatory evidences. They are not positive. There are other things which enter into the causation of the shadows. A sinus which has thickened mucous membrane casts a darker shadow than one with a normal mucous membrane. The variations of the bone structures themselves, or part of the other bones beyond coming into the field, make one sinus appear darker than another. The bones do vary, so that a dark sinus alone, as seen in the plate, should make one only suspicious of that cavity.

Dr. Lewis A. Coffin, New York City (closing the discussion): Every case of atrophic rhinitis generally brings out something like adenoids and tonsils. Inasmuch as this is so, and that Dr. Loeb stated that it is not a very common or rare disease, I will convince him

at least that it is as common as this. If you go in the hospital ward you will find almost all the children show disease of this kind. This does not mean that if you will take them off the street they will show the same percentage. They are simply diseased children.

I had a little patient in the same ward four or five years ago, and she is now ten or eleven years old. She had a keratitis, and had been in the hospital a year. We took out one tooth, both the milk tooth and the one above it, and cleaned up the antrum, and inside of a short time her eyes were open and they have been open ever since. I saw the child and examined her jaw, and one would not know she had even lost a tooth unless you counted the teeth on the two sides.

Somebody asked the question as to whether these all went on to atrophic rhinitis. I presume not. Some get well; but all the cases shown here are chronic cases.

There are changes in the lining membranes of sinuses that the microscope and pathologists cannot tell us. There are latent sinuitis cases in which the X-ray does not show much. I have operated upon a case and found no free pus and no pockets of pus, but every bit of tissue taken away the pathologist will tell you is just covered with disease. I think it is possible to get some of our worst conditions from latent sinuitis cases. The antrum frequently shows dark under the X-ray; you cannot even get water through, and yet there is no pus. I do not know what the degeneration of that membrane is, but it is full of polyps.

In regard to opening up the antrum and getting rid of the odor, because it is just as easy to do this in atrophic cases, go home and try it.

We have had one case in which the odor was as bad as you can think of, and the patient had never been treated for ozena, and nothing had been done but the antrum opened. In some of the cases we purposely left the ethmoids to pustulate and scab, in order to see the scabs without the odor, but the antrum is clear.

(To be continued.)

He spent his health to get his wealth
And then with might and main
He turned around and spent his wealth
To get his health again.

Michigan Public Health.

Analyses, Selections, Etc.

The Diagnosis of Poliomyelitis.

Draper and Hayes have emphasized two stages in the progress of the disease, says J. P. Leake, U. S. P. H. S.; first, that of general systemic symptoms; second, that of invasion of the central nervous system by way of the meninges. They mention the interval of apparent recovery or improvement, which frequently occurs between the two stages, but that is not the whole story; the disease is very commonly one of remissions at every stage. Though we cannot speak with such assurance about the systemic stage, it is probable that here also, as is repeatedly observed in the meningitic and in the paralytic stages, there are remissions and regressions.

The pathologic picture which will best convey the progress of the disease is, first, that of a general infection; second, a meningitic invasion, from a very mild to a severe meningitis: and, third, in some cases, an extension of the infection into the anterior horns of gray matter in the spinal cord and, to a less extent, into the other parts of the central nervous system, with weakness, paralysis, and definite localized nervous symptoms. The stages may be clinically simultaneous, though usually meningeal signs precede an evident paralysis. Any two of these three stages may be absent, or at least so slight or transient as to pass undiscovered.

The combination of fever, vomiting, constipation, drowsiness, and irritability, especially when combined with headache, a transient flushing of the face, abnormal sweating, or retention of urine, is enough to make tentative diagnosis of poliomyelitis if frank cases are occurring in the vicinity.

Cases with gradual onset, malaise and indefinite symptoms cannot be diagnosed before the appearance of meningeal or paralytic signs if such signs do appear; but an onset with one or more remissions is very suggestive. The more careful the inquiry into the histories, the more frequently will such onsets be found. The remissions are of varying length, and may be as long as one or more weeks.

The chief definite symptoms of the slight degree of meningitis commonly met with are pain on spinal flexion, hyperesthesia and increased reflexes. Of these, pain on anterior

flexion of the spine is perhaps the most frequent and characteristic. Enough meningeal involvement to cause real opisthotonus or retraction of the head is not the rule; but pain on forward nodding of the head, and especially pain on forward bending of the lower spine, is very frequent and characteristic. Kernig's sign may or may not be present. One of the most persistent, often remaining after all acute symptoms have subsided, is popliteal pain, due to hypertonicity of the hamstrings.

Lumbar puncture and examination of the spinal fluid should be made if the meningeal symptoms are at all severe. One symptom attributed to meningeal involvement is pain, or, rather, hyperesthesia. The tenderness may be of the skin, on deep pressure of the muscles, or on motion of the joints. It is a most characteristic symptom of the disease, yet has frequently misled physicians into a diagnosis of rheumatism or of neuritis. It may be general or of one part of the body only. No swelling accompanies it, and its distribution is not confined to certain joints or certain nerves, but involves areas corresponding rather to segments of the spinal cord.

Anesthesia, if prominent, inclines one against the diagnosis of poliomyelitis. One of the most notable of the motor phenomena is a tremor, brought out especially if the limbs are extended unsupported or if muscular effort is attempted. The parents may also at times notice twitchings, but the tremor is more characteristic. Unsteadiness in action, in gait, or in standing, may amount to a pronounced ataxia.

In these examinations in the acute stage, it is to be remembered that the chief therapeutic need is rest in bed, and a sick child should not be made to walk across the room or put through muscular exercises more than is necessary to establish the diagnosis and to ascertain indications for local treatment.

Even in the absence of an epidemic, a chain of general or systemic symptoms, such as those previously described, combined with the spine sign, local hyperesthesia, and tremor, would be sufficient for a tentative diagnosis of poliomyelitis. An asymetric reflex disturbance would make this diagnosis definite, though if the meningeal signs were at all pronounced, other forms of meningitis should first be ruled out by lumbar puncture.

Four points are to be emphasized regarding the paralysis of poliomyelitis:

1. A great proportion of the cases, probably the majority, are not recognized as paralytic. These non-paralytic cases have, in the past, been reported in considerable numbers only where epidemics have been carefully studied. In many cases, in fact, paralysis has been the criterion for diagnosis.

2. Even in the paralytic cases, weakness is the rule, absolute paralysis occurring in less than twenty per cent. of the muscle groups affected.

3. The paralysis, when it occurs, is typically flaccid. There may be increased tonicity in the early stages, but in poliomyelitis, permanent spastic paralysis is rarer than anesthesia.

4. Though examples are on record of involvement of the nucleus of every cervical and spinal nerve, the distribution of the paralysis is to some extent typical. Certain muscles are much more commonly affected than others, and, at times, a slight impairment of a single muscle determines the diagnosis.

The legs are more often paralyzed than any other region; the toe muscles, themselves, are usually spared. Weight bearing appears to have a deleterious influence on recovery, so that in old cases, especially, leg paralyses are greatly in excess. Arm paralyses follow next in frequency, particularly those involving the deltoid muscle.

In regard to paralyses in other parts of the body, statistics vary in different epidemics and with different observers, not only on account of variations in the degree of delicacy in tests for muscle function, but also because in some series the observations are made early in the acute stage and in others later, when muscle training or other orthopedic treatment is begun; some paralyses are very transient, and clear up before the period of quarantine is past.—(*Public Health Reports*, Nov. 2, 1917).

Influence of Drugs on Skin Reactions.

Kolmer, Immerman, Matsumami and Montgomery (*Journal of Laboratory and Clinical Medicine*), call attention to the fact that physicians have not realized as a rule that the oral administration of certain drugs may influence skin reactions to the extent of increasing their degree and severity or producing well-marked papular or pustular reactions in the skin of

persons who did not react to the injections in preliminary tests. As a result of their investigations they found that iodides, particularly potassium iodide, influenced the luetin intracutaneous tests to a marked degree. Normal non-syphilitic persons, reacting negatively to the luetin test, may show marked reactions when tested after the oral administration of sixty or more grains of potassium iodide. It was noted, however, that the cutaneous tests are not as readily influenced as the intracutaneous. The use of potassium iodide also increased the tuberculin reactions in persons shown to be sensitive. The authors believe that this action of the iodides is responsible for the discrepancies in the results that have been reported concerning the luetin reaction. —(*New York Medical Journal.*)

Carbolic Acid Poisoning.

If a surface burned with phenol be washed at once with vinegar or a dilute solution of acetic acid, the bleaching and anesthetic influence of the acid are such as to at once control the pain. The chemical influence of the two is such that the caustic influence of the phenic acid is destroyed by neutralization. Taken into the mouth, the carbolic acid influence will disappear very quickly if it be followed at once by a mouthful of vinegar, retained in contact with the surfaces burned by the phenol. If a quantity of the acid has been swallowed, dilute at once a quantity of vinegar, just sufficient to make it possible to swallow it. The quantity of vinegar must be in excess of the acid quantity swallowed. If a very large quantity of the antidote must be necessarily taken, it should, if possible, be removed from the stomach after a short time with extreme care by the siphon or the stomach pump or by mild emesis. Danger of perforation of the esophagus or stomach walls must be considered and avoided.—(*Ellingwood's Therapeutist.*)

Autoserotherapy in Acute Infections.

Herbert H. Sinclair (*International Journal of Surgery*) prepares an auto-sensitized, autogenous vaccine by applying a blister to the patient's chest and drawing off the serum in a hypodermic syringe. This serum is injected into the patient. Sinclair has used it with success in cases of pneumonia, whooping cough, and puerperal sepsis. The higher the leucocytosis the better the result. When leukopenia is present, no benefit is to be expected. There is no local reaction at the site of injection, which is always the case when stock vaccines are used. In cases of pneumonia there is a general feeling of relief within an hour, the breathing becomes easier, and perspiration sets in. He has used this form of vaccine in over 200 cases.—(*New York Medical Journal.*)

Goitre—An Analysis of 125 Cases with a Note on the Treatment.

Dr. Leigh F. Watson, Chicago, reviews the records of 125 goitre patients, considering the cause, age at onset, and effect of previous operations in certain cases. He illustrates by tables the degree of enlargement, and reports the results following quinin and urea injection.

The cases reported are representative of the class who seek treatment by nonoperative measures, and statistical data in this limited number of cases differs in some respects from that observed in the larger surgical clinics.

In 43 per cent. no exciting cause could be elicited; in the remaining 57 per cent. the onset could be ascribed to a definite exciting cause. Of the 125 cases, 15 per cent. was caused by worry; parturition was responsible for 11 per cent., and in 9 per cent. the condition was due to puberty. Twenty per cent. gave a family history of goiter, and 11 per cent. of nervousness; 19 per cent. had had tonsillitis. Forty-five per cent. of the exophthalmic patients first noted the goiter eight years before examination, at the average age of 34 years, and the symptoms developed at the age of 40. Fifty per cent. gave a history of acute onset, two years before coming under observation, at the average age of 29 years. Sixty per cent. of the nonexophthalmic patients observed that they developed more marked symptoms of intoxication as the goiter became more chronic.

Before coming under treatment, five exophthalmic patients had had ligation of the superior thyroid arteries with temporary relief; four had had partial thyroidectomies without permanent benefit; three had had pelvic operations without lessening the hyperthyroidism; the condition of one was aggravated by a panhysterectomy; and one had had a tonsillectomy six months before without influencing the severity of the exophthalmic symptoms.

Enlargement usually begins in the right lobe, sometimes in the isthmus and least frequently in the left lobe. In 95 per cent. of the exophthalmic patients of this group both lobes and isthmus were involved before the goiter became exophthalmic. A majority of the patients noticed increasing symptoms of intoxication as the goiter became more chronic, gradually involving both lobes and isthmus. Eighteen per cent. of the mildly toxic patients became exophthalmic after an average period of five years. This study indicates that both nontoxic and toxic goiter occur later in life in nongoitrous localities than in sections where the disease is more prevalent.

The following show the results after quinin and urea injections:

Effect of the Injection on Symptoms—Exophthalmic: Relieved, 85 (aver. 4 mos.); improved, 15; not improved, 0. Nonexophthalmic: Relieved, 84 (aver. 2 mos); improved, 10; not improved, 6.

Effect of the Injections on Goiter—Exophthalmic: Cured, 80 (aver. 5 mos); reduced, 15; not reduced, 5. Nonexophthalmic: Cured, 75 (aver. 4 mos.); reduced, 12; not reduced, 13.

Two patients suffering with severe toxic goiter with exophthalmos of several years' duration received only slight benefit; later a lobectomy was done without additional relief. Four exophthalmic patients were pregnant, two to four months. Relief from hyperthyroidism followed the injection and they went to term without recurrence and had normal deliveries. The number of patients cured is highest in the group of those who came for treatment early in the disease; the benefit received by those who came later was in proportion to the degree of damage done the circulatory and nervous systems. A goiter that has once disappeared has never recurred. A majority of the patients in this group have been under observation for two to four years. The quinin and urea injection has limitations the same as any other treatment for goiter and can be employed only in selected cases. The treatment of the exophthalmic type in young adults is very difficult, and should be attempted only under the most favorable circumstances. If the best results are to be secured, hyperthyroidal patients must have at least a year of mental and physical rest after treatment.—(*N. Y. Medical Journal*, Sept. 22, 1917.)

Correspondence.

The Need of Medical Preparedness.

To the Editor:—What is the matter with the medical men of Virginia? I refer to the apathy manifested when considering the call from our country for volunteers in the Medical Reserve corps of either army or navy.

Knowing many of these men, I must attribute this to ignorance of the immediate necessity of training and a lot of us need the training—every bit we can get to fit us for the work ahead. And there is no doubt about the work. I wish, therefore, to ask some space to advise a short course of reading on the subject; a few books to study, or even casual perusal of which will convince any American of the need of medical preparedness-instanter.

As the cause of this causeless calamity, this premeditated world-wide riot, I recommend, first, "J'Accuse," by a German nobleman or rather a member of the German nobility. Also read "The Soul of Germany," by Smith, an English professor in some German university, for ten or more years prior to the outbreak of the war.

In reference to preparedness effected by the enemy, even in our own land, see Dewey's report of the boastful German admiral's predictions, or warnings, made in 1898. Dewey was informed by this man that his country would be ready and "on their way" in fifteen years. He only missed it by one year. Paris was expected to fall in sixty or ninety days; London in two years, and Washington in five years. Also especially read "German Conspiracies in America," by Skaggs, I think a Chicago newspaper man.

We have got to meet this preparedness in France, Belgium or Germany, or in Fluvanna, Bedford or Gloucester, so get busy. It is stated, I think in the last book mentioned, that unofficial consuls or animated sign-posts have been placed in practically every community, especially in our towns and cities, during the past ten, fifteen or more years, with instructions or orders to keep their eyes and ears open and mouths shut; to affiliate with the people, take special interest and join in all public affairs and report anything required. We may, as England and France found, expect to find,

in fact find, them active in politics, religion, fraternal organizations, and, I believe, in the army and navy. Recall the two attacks made on our first fleet of transports. These "consuls" did good work then. They were better informed about the course to be taken than the commanding officers of the ships of that fleet, as the impression is that it sailed under sealed orders. These men generally do good work, are well organized and their ten commandments are condensed into one: "Obey orders."

Look around you, especially if you live in or near a town or city. "Practically every town of one hundred inhabitants has at least one unofficial consul," some writer has stated, and France and England found it so. And they obey orders, we know. The Kaiser has ordered them to remember "the Fatherland stands first." before father, mother, and certainly before any adopted country.

The "Deutchland," supposedly a merchant ship to Baltimore and Newport, has since been found to have been simply a modern path-finder of the seas. Why they needed such no one knows, for we entertained six hundred path-finders from two German commerce destroyers, in and around Norfolk, Hampton Roads, Chesapeake Bay and distant towns, Richmond included, for six months. "Several were employed at the Richmond Locomotive Works," so I was reliably informed. Active and energetic path-finders! These were the same refugees under our flag that later "poisoned the food and wines and put explosives in the smoking tobacco" with which these ships were loaded to full capacity. They were sent to Philadelphia, where they doubtless found too many paths for the comfort of Mayor Smith. He finally had them transferred to more comfortable quarters for the winter at Ft. Oglethorpe, Ga. Have not heard that their food and wines were sent along with them. Judge they did not want this, so prepared it for us. They are great on preparing. Consider the destruction of machinery to incapacitate all German ships—that we had prevented the English from destroying—when the Ambassador was sent safely home. While recalling so much, do not forget the Ambassador's plans anent the disposition of New Mexico, Arizona and California. He hasn't as yet made known what Germany expected to do with the Southern, Northern and Mid-Western states.

Remember the sinking of the steamer "in the channel to the Charleston, S. C. navy yard, started to sink directly athwart the channel, but wind and tide placed it obliquely across." This positive statement is from an absolutely reliable man of that town, formerly of this State.

Also read "The Pan-German Plot Unmasked," by Chera dame. And again, read a recent copy of Puck, giving "the inside history of the visit of Prince Henry of Prussia to this country," about fifteen years ago. And also learn what Dewey and "Teddy" knew about that visit and what the visit was for. It was an unmilitary review of their forces and strength. In this review he did most everything, except no one heard him call the roll, though, I believe, it was found he did have a roll of the leaders. Further, as to cause, read "The Secrets of the German War Office," by Graves. This was published three days after the war started, but was in the hands of the publishers two months and four days before. All that about the Austrian Archduke was purely pretence.

Remember the same power that preached peace in the United States—'till they were ready for US—was preaching and prosecuting war in Ireland and Mexico. I have read every Mexican leader, from the President down to Villa and Zapata, had these unofficial consuls in their military households. The president is said to have had six, Villa three or four, etc. These men do not seek the high positions—they merely "obey orders" and get in close communion and seek information. France's West Point had two of them in the graduating class of 1914. Both were natives of Paris, both sons of a German father, both still loyal to the Fatherland and both were sending weekly reports to Berlin.

This loyalty is absolutely admirable, but when one considers the body that prompts it and that governs them, it is absolutely incomprehensible. For loyalty to their fathers' land they deserve great praise and, it may be, each of them was worthy of an iron cross, but surrounding circumstances made their conduct traitorous, and certainly worthy of appropriate treatment.

So far as I know, aside from the arrest of Vietor, in Richmond—postmaster of the German Ambassador's sub-station office—and of the Alexandria Theological student—upper

class man—the arrest of the mysterious consul in Norfolk, is the only important arrest that has been made in Virginia. This fellow was put in the Norfolk jail; a second Bastile, well-nigh impossible to break in or out; yet in few days this man was accidentally captured in Danville. The animated sign posts got busy here.

The papers of October 24th report escape of fifteen of our alien sojourners from some resort in Georgia. They left no sign or "trace," as the German representative to Argentina would say. The sign-posts are still busy.

If possible, read the books I have mentioned. You will need no further appeal. All this applies to our country, to Virginia, to our town and reaches to the cross-roads' peddler or preacher.

As for sacrifices, loss of practice, etc., I question any loss of consequence, except for a time. It is my opinion that probably only about twenty-five per cent. of our people still follow the old genteel rule of having a family doctor; probably a like number have a preference, but a few minutes' delay will easily reconcile them to getting a substitute; for the remaining fifty per cent. "'tis the man on the spot that gets the job"—provided he will take it. In a year or two, or three, he can "come back" in every way, if he will.

Finally, do not forget, if you do not want to voluntarily respond to the country's call, the country will call in some other way.

M. C. V.

October 25th, 1917.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

The Educational Bearings of Modern Psychology. By CHRISTABEL M. MEREDITH. Published by Houghton Mifflin Company, Boston, New York and Chicago.

In this interesting monograph the author summarizes the progress made in teaching and educational endeavors in general. Attention is called to the fact that the modern program calls for greater vitality and breadth in the education of youth. In the teaching of the youth the adult must escape himself. The whole tendency in dealing with human nature is to read oneself into others. It is surprising how persistently people go through the world thinking that people are substantially like themselves. The teacher in order to be useful must bear in mind that there is a large gap between people and for the proper understanding of this gap he must have recourse to science and particularly to psychology, which will enable him to interpret properly human nature and bring accuracy to the technique of education.

In the present volume the author considers the following psychological problems. First, of all, and justly so, he discusses instinct in its relation to Attention, to Behavior, Personal Responsibility, Activity, etc. Next he enters into an analysis of the conception of Discipline and insists on the necessity of a positive discipline. The Growth of Habits and Sentiments and the influence of environment are considered critically and highly instructively. Finally, a very important chapter is found in the author's special studies in connection with Adolescence. The entire subject is treated in an interesting and entertaining way. The book is recommended to the teacher and to the psychiatrist who will find in it many highly useful hints.

ALFRED GORDON.

Mental Conflicts and Misconduct. By WILLIAM Healy. Published by Little, Brown & Company, Boston. 1917. Price, $2.50.

Misconduct or Conduct in general is based not on caprices of the individual but upon the workings of potent subconscious mental mechanisms according to definite laws of mental life. Hidden daily experiences are the direct causes of these mental processes.

To pass judgment on misconduct, no matter how slight or serious the latter may be, one must be versed in the unraveling of the nature of the subconscious mental operations. The antiquated method of punishing for troublesome behavior is highly undesirable, as it has proven to be a great failure, just because the principles of the behavior have not been truly appreciated. The present system of reformatories and probation have on the contrary proven to be effectual because of a better knowledge of the underlying motives for misconduct. The author summarizes this knowl-

edge and the methods by which to arrive at such a knowledge in a very illuminating manner. He considers conflicts in every possible direction and presents the subject in a masterly way. The book should be closely read by specialists and all who are interested in social welfare of their fellow beings who happened to be unfortunately guided.

ALFRED GORDON.

The Medical Clinics of North America. September, 1917. PHILADELPHIA NUMBER. Volume I, Number 2. Published bi-monthly by W. B. Saunders Company, Philadelphia and London. 8 vo. of 269 pages, 28 illustrations. Price, per year, paper, $10; cloth, $14.

These Clinics, which made their initial appearance with the Johns Hopkins number in July, were so well received, that further introduction is hardly necessary. The Philadelphia number, which has just been published, contains reports of clinics by sixteen of Philadelphia's prominent doctors, each of whom is recognized as an authority in his specialty. They treat of a variety of subjects and give much interesting reading.

Practical Medicine Series. Under general editorial charge of CHARLES L. MIX, A. M., M. D., of Northwestern University Medical School, Chicago. Volume VI. General Medicine. Series 1917. Chicago: The Year Book Publishers, 608 S. Dearborn Street. Cloth, 12 mo., 347 pages. Price, $10 for series of 10 volumes.

The present Volume is edited by Drs. Frank Billings and Burrell C. Raulston, both of Chicago, but owing to the absence of Dr. Billings in Russia, the final revision of the manuscript was left to Drs. Raulston and Mix. It gives abstracts (illustrated when necessary) of interesting cases under four divisions:—infectious diseases; gastro-intestinal tract; diseases of the liver and gall-bladder; and diseases of the pancreas.

St. Luke's Hospital Medical and Surgical Reports. Volume IV. 1917. The Press Publishing Co., East Stroudsburg, Pa. 404 pages.

It has been customary at St. Luke's Hospital, New York City, for a number of years past, to collect some of the papers written by members of the attending staff and publish them in permanent form for convenience of reference. Some in the present volume have appeared in medical journals; others have not heretofore been printed. This Volume IV contains 30 papers, a number of them handsomely illustrated.

Editorial.

Birth Control.

A free discussion of birth control is denied by laws; for this reason one needs be careful in expression.

The motto of one of the States is *Crescite et Multiplicamini*, beautiful when applied to stock raising, but very frequently the application of her motto within the domestic circle has the undesirable effect of increasing the number of derelicts, degenerates and paupers.

Did all states have a law regulating marriage, as has the state of Wisconsin, it might be well; still this law is not sufficiently far-reaching, since parties desirous of evading it need but cross from her jurisdiction where willing ministers and officials will be found ever-ready to perform the ceremony. Did this law provide for prosecution upon the return of the parties to the state, then it would be a success. Virginia's law forbidding miscegenation prosecutes the offending parties should they return or be found within the state.

While birth control should be regulated, it is questionable whether there is such strength as one would expect to find in a multiplicity of laws; therefore, laws upon this subject must be ancilliary to measures from other sources. And these measures must come in the shape of correct and intelligent advice from the medical profession.

Syphilis, scrofulosis, tuberculosis, insanity, epilepsy, are on the increase; it is not necessary to present statistics to prove this. Whether these diseases are, or any one of them is, cured permanently, so that the subjects may marry and produce children free from taint is problematic and, although we may skip several generations, a future generation will give evidence of the taint.

Every one engaged in the practice of medicine is fully cognizant of the ravages of an uncured venereal disease; the shelves of hospital museums are speaking memorials to an uncured gonorrhea in the woman.

A man or a woman suffering from any disease in a latent state or in its supposed cured

state, will find little difficulty in securing a certificate of health, for the reason that the one certifying is unacquainted with the previous history, or he is deceived by the answers to his questions. Laboratory fees are not sufficiently remunerative to induce a physician to apply all known tests for the detection of fraud in disease; therefore, the examination often becomes perfunctory.

Syphilitics should be under control, but it is well known that they are free in their movements and in the distribution of their disease.

The tuberculous man is hedged in by laws that require registration; the laws enacted for his benefit oftentimes result in loss of employment and loss of his income. Many unnecessary annoyances are inflicted upon him; while, with all precautions taken to prevent the spread of his disease, he is, if married, so placed that he continues to propagate a species of unhealthy children, many of whom will, in time, become charges upon a community for support in homes, asylums, hospitals, workhouses, or almshouses.

The insane—those who are not sufficiently affected to require restraint—follow the same laws of sexual life that are followed by the syphilitic, the scrofulous and the tuberculous.

Separate beds, separate rooms, separate houses, if you will, make for good advice; they create an impression of care, paternal solicitude, and, if followed, will assist us for a time, but where there is a man with a passion and a woman sexually willing, such an arrangement with its halo of glorification will not last a long time; so, while the theory is right, the practice is faulty.

The question arises right here—Shall we permit or encourage such a quasi-restrained sexual life, or shall we step in and suggest to our lawmakers the adoption of operative measures for the protection of the race?

Birth control must be regulated by extraneous measures. This side of the question must be approached with caution; otherwise, there may be persecution and prosecution, and discussions upon theology.

Laws of morals, conscience, church, or state, hold no terrors against a desire to be rid of an illegitimate or undesirable pregnancy, and in many instances the family physician becomes the unwilling accomplice of the abortionist, when he is called to clean out a partially emptied uterus—the woman meanwhile thinking she has deceived him.

We have no desire to defend the abortionist; they will be found in every community; they are necessary evils. While there is no suggestion to interfere with a pregnancy occurring among the undesirable, measures should be taken to destroy the power of the man to impregnate and of the woman to conceive.

Syphilitics must be registered; the tuberculous must be segregated; removal of the tubes and ovaries of the diseased woman; castration, vasectomy, or other power-destroying measures in the diseased and affected man are the ways suggested.

L. E.

Doctor's Position in War to be Defined.

According to information received from Dr. Joseph Colt Bloodgood, chairman of Committee on Preparedness, Southern Medical Association, there are about 14,000 doctors commissioned in the Medical Reserve Corps, and about 7,000 in the process of being commissioned. These 21,000 medical officers are about sufficient for present conditions, but the indications are that we will need a much larger army, and the medical profession of the country will then be tested to its utmost capacity.

For this reason, it was decided at a recent meeting in Chicago, of the State Committees of National Council of Defense, to petition Congress to create a Reserve Medical Officers' Reserve Corps. Then, every qualified physician at any age will be given the opportunity and honor to volunteer his services and be enrolled. After this, every physician will be in a position either to wear the insignia of honor of the Reserve Medical Officers' Reserve Corps or the uniform of active service in the Medical Officers' Reserve Corps. From the former class, the Surgeon General will be able to select medical officers as they are needed for service in France or at home.

Three of the great problems which confront doctors in successfully carrying on this war are: The training of physicians in civil practice for military duty; the protection of the army in training in this country from venereal infection; and in the future, when our wounded begin to return home, the re-construction and re-education of crippled soldiers.

The James City County (Va.) Medical Society,

At a recent meeting held in Williamsburg, elected the following officers: President, Dr. John M. Henderson, Williamsburg; vice-president, Dr. A. M. Sneed, Toano; and secretary-treasurer, Dr. D. J. King, Williamsburg.

Dr. Claude L. Holland,

Fairmont, W. Va., is spending some time in Boston, where he is taking up special work in children's diseases.

Dr. J. C. Bodow,

Hopewell, Va., has been elected president of the Prince George Hospital Association, recently incorporated in that place.

Attached to French and British Forces.

There are 3,180 medical officers, nurses and members of ambulance sections of the United States army now attached to the British and French forces. This total is made up of 870 medical officers and 470 nurses with the British forces, and 40 ambulance sections, each of 46 officers and men (a total of 1,840) with the French army. All this American personnel wear the uniform of the U. S. Army and are loaned to the British and French forces subject to recall, if the War Department so decides, to be assigned to duty with the American forces. Both countries are very appreciative of the work done by our men, and the training under actual service conditions will prove decidedly beneficial for these doctors when they are needed to care for own men.

Dr. Edward T. Glover

Has been appointed to succeed Dr. Gray G. Holladay, resigned, as coroner of Portsmouth, Va.

Health of Soldiers in Camps Good.

The General Sanitary Inspector, who has just returned from a tour which took in a number of camps, reports the health of soldiers in camp better than that of civilians, and this in spite of the fact that a man is classed as "sick" if he is excused from duty for even a slight indisposition. The only serious disease found was pneumonia. The physical training, outdoor life and regular hours are improving the health and increasing the resistance of the men to disease.

Serum for Scarlet Fever.

It has been announced by the Associated Press, that at the meeting of the Swedish Medical Society, this month, Dr. Carl Kling, a noted bacteriologist of Sweden, claimed to have discovered a serum for the treatment of scarlet fever. It is said that the use of this serum has reduced the mortality of the most severe cases to 17¾ per cent., as compared with a mortality of over 70 per cent. in equally severe cases not treated with this serum.

Lt. E. W. Young, M. O. R. C.,

Of McKenney, Va., in a recent letter, states that he is serving in the British Army, as an assistant surgeon in the Great Eastern Military Hospital, at Harwich, England. Although quite a number of Virginia medical men are in the reserve corps serving with the British Army, he is the only American at Harwich.

Married—

Dr. Thomas A. Williams, Middletown, Va., and Miss Ethel May Ambrose, formerly of the Winchester Memorial Hospital, at her home near Strasburg, Va., November 7.

Dr. Blanton L. Hillsman,

Of Richmond, who acted as medical officer at Camp Lee, Va., and was later transferred to Fortress Monroe, Va., has received the rank of major, and is now in charge of the surgical service at the last named place.

Buy Red Cross Christmas Seals.

The work done in this State does not compare favorably with that done in other States, in the sale of Red Cross Christmas Seals, and the State Anti-Tuberculosis Association wants to make this a banner year. The proceeds from the seals are used to build camps and sanatoria, open dispensaries, support nurses, send tuberculous men and women to hospitals, conduct the educational campaign, and even furnish milk and eggs in some communities for indigent consumptives.

There are 4,000 deaths in Virginia each year from consumption, and there are only 350 beds

in both State and private sanatoria. The State Sanatorium at Catawba has a capacity of 169 beds, and the waiting list at one time during the year ran as high as 200. Reports from the Exemption Boards of the State show that approximately 1,000 drafted men were rejected because of tuberculosis. For the treatment of these men, there was not a vacant bed in the State.

Let us all remember these facts, when we see the Red Cross Christmas Seals for sale.

Dr. Susan A. Price

Has returned to Williamsburg, Va., where she has the position of assistant physician, which she formerly held.

Dr. J. N. Barney,

Of Fredericksburg, Va., who was first stationed at the U. S. Aviation Station, Essington, Pa., has been appointed Captain, M. R. C., and is now at Mineola, Long Island, N. Y.

Physician"s Affidavit Necessary to Get Liquor by Express in Virginia.

A circular has been issued to the express companies directing that "on and after November 15, no interstate shipment of intoxicating liquors shall be delivered to individuals for medicinal purposes, except upon the production of an affidavit of a practicing physician to the effect that he knows from professional examination that the liquor is needed for medicinal purposes."

Physician's Affidavit Necessary to Get Liquor sion of Women.

No action was taken at the general faculty meeting of the Medical College of Virginia, in November, with reference to the admission of women into that institution. However, all three departments have voted favorably on the subject, and expressed their action in the form of a recommendation to the board of trustees. Much sentiment has been created in favor of the admission of women into the College, because so many Southern women go to Northern schools to receive instruction in medicine, when it is probable that a number would study nearer home, if opportunity permitted.

Dr. and Mrs. E. L. Kendig,

Of Victoria, Va., accompanied by their son, have been visiting in Mineral, Va.

Dr. and Mrs. Otis Marshall

Are at their home in Culpeper, Va., after an absence of some weeks on account of the Doctor's health. He is now much improved.

Dr. Robert Whitehead,

Of Newport News, Va., spent some time with his father at his old home, "Mountain View," in Amherst county, Va., early in November, as he expected to enlist in the medical corps of the army.

Dr. J. T. Leftwich,

Formerly of this city, but who has been practising at Harvey, W. Va., is now located at Lawton, W. Va.

German Drug Patents Open to Manufacturers.

In regulations issued by the Federal Trade Commission, October 30, enemy owned patents and copyrights will be licensed for manufacture by citizens of the United States. Approximately 20,000 patented and copyrighted articles are said to be affected by the commission's order. When the regulations had been made public, the Commission met a group of medical men to consider licensing the manufacture of certain drugs, principally salvarsan and non-toxic substitutes for local anesthetics, of which the supply in this country is low since the war interrupted commerce. It is likely that any licenses issued for the manufacture of salvarsan would carry a provision that a certain percentage of the output be turned over to the Public Health Service.

The regulations follow the law closely in safe-guarding the interests of patent owners, who must be reimbursed for their inventions, and they provide that licenses will only be issued when the interest of the public requires it to supply a demand not being met. The licensee must give evidence of ability to manufacture the article.

Dr. and Mrs. R. T. McNair,

Emporia, Va., spent a few days in Richmond, early this month.

Dr. William P. McGuire

Has returned to his home in Winchester, Va., after a visit to Old Point Comfort, Va.

Dr. and Mrs. Oscar Clyde Page,

Of Brodnax, Va., have been visiting relatives in Durham, N. C. Dr. Page has just returned from London, where he has been doing hospital work.

Nursing Recommended as a Vocation.

According to the American Red Cross, 15,000 nurses have already been enrolled, many of whom have volunteered for war service. About 2,000 have already been sent to Europe, and it is estimated that the present registered force is sufficient to care for an army of a million and a half. Although our present needs are being met, it is suggested that able and educated young women should be urged to enter the regular training schools and take the usual course, in order to fit themselves fully for nursing. In this way, the ablest and most experienced nurses could be released for service behind the lines, and a constant supply of younger nurses, thoroughly trained, could look after our own sick. The Red Cross requirements for nurses have been somewhat modified in order to make many additional nurses eligible for enrollment and available for call should necessity arise.

Cubans Work for a Red Cross Hospital Unit.

The Cuban Red Cross Society is equipping a 100-bed hospital unit, manned by Cuban physicians and nurses, for service on the Western front in France. Prominent Cuban women have set out to raise a fund of $1,000,000 to finance the unit, and have about $100,000 already in hand.

A Digest of Medical Literature

Is to be issued periodically by the Bureau of Medical and Surgical Information in Paris. It is to circulate among American hospitals in France to keep the doctors in touch with progress in investigating medical and surgical war problems.

Dr. E. J. Moseley, Jr.,

Has returned to his home in this city after a short hunting trip in King and Queen County, this State.

Dr. E. Gordon Valk,

Of Bundick, Va., has moved to Tangier, Va.

Dr. C. L. Nottingham,

Cape Charles, Va., with a couple of friends, took a motor trip to Philadelphia, early this month.

Dr. M. C. Bennett

Has returned to his home in Washington, D. C., after a visit to friends in Manassas, Va.

Sex Proportion at Birth and in Infant Mortality.

Birth Statistics, issued by the Bureau of Census, states that "for some unknown reason, statics almost invariably show more male births than female, and a higher infant mortality among males than among females. In the registration area for 1915, there were 398,615 male births and 377,689 female, which gives a proportion of 1,055 male births to each 1,000 female births. The infant mortality rate of the males was 110 against 89 for the females."

Dr. Manfred Call,

Of Richmond, spent several days this month with Dr. Perkins Glover, of Arvonia, Va. They motored from there to upper Buckingham County, where they had some good hunting.

Dr. William F. Drewry

Has returned from a trip to Lynchburg, Va., where he went as one of the delegates from his city to the conference of the Methodist Episcopal church.

Doctors in Va. War Work Council.

Dr. H. S. Hedges, Charlottesville, has been appointed chairman of the Charlottesville District, and Dr. A. R. Gray, Palmyra, chairman of the Fluvanna County District, which works in connection with the Charlottesville District in the War Work Council of the Young Men's Christian Association.

Doctors in New House of Delegates.

The following doctors were made members of the new House of Delegates at the recent elections held in Virginia: Drs. J. F. Ragland, from Chesterfield County; B. F. Noland, from Loudoun County; R. S. Martin, from Patrick County; Peter Winston, from Prince Edward County; George T. Snead, from Princess Anne County, and C. H. Rolston, from Rockingham County.

Dr. William D. Meeks,

Of Massies Mill, Va., recently paid a visit to his son in Amherst, Va.

Dr. William G. Painter,

Big Stone Gap, Va., accompanied by his wife and daughter, have been on a visit to Bristol, Va.

Seasickness.

According to *Eugenical News*, the Surgeon General of the Navy states that "a certain proportion of recruits are never seasick even at the outset of their career, but a large proportion of them do suffer from this affliction for a few days when first going to sea." While most of the men, "acquire the sea habit" there are a few in whom the discomfort from seasickness is so extreme as to preclude the performance of duty even after prolonged cruising. These cases have to be discharged. The number of discharges for this disability for the past five years is as follows:—13 cases in 1912: 2 cases in 1913; 8 cases in 1914; 10 cases in 1915; 4 cases in 1916.

Dr. P. A. Irving,

Of Farmville, Va., was a recent visitor at Hollins Institute, Va.

Warning Against Medicine Fraud.

A warning has been issued by the Bureau of Chemistry, U. S. Department of Agriculture, stating that men posing as Federal employees are trying to sell rheumatism and other "cures," which they represent as being made by the U. S. Government. They have been working in Minnesota and South Dakota as agents of the "U. S. Medical Dispensary" or "Dr. Henry Post," Washington, D. C. Federal inspectors have been unable to locate any such concern or doctor.

Lt. Horace Taylor Hawkins,

Recently of Irvington, Va., but who has been in training at Ft. Oglethorpe, Ga., has been assigned to duty with the First Virginia Field Artillery, with the rank of army surgeon.

Decrease of Pellagra in North Carolina.

According to the report of the State Board of Health, pellagra has decreased 50 per cent. in North Carolina during last year. In 1914, there were 551 deaths from pellagra; in 1915, there were 831, while in 1916, there were 467. Of the latter number, 241 were deaths of white people and 226 colored. Announcement is made that this decrease is in keeping with the general decrease throughout the Southern States, which is attributed, in great measure, to industrial and agricultural prosperity, along with more intelligent cooking and eating.

"Make it a Red Cross Christmas!"

A nation-wide Christmas membership drive has been planned by the Red Cross War Council, with the idea of adding 10,000,000 names to the present muster roll, and thus increasing the Red Cross membership to 15,000,000 in the United States. The drive is to start December 17, and continue unceasingly up to Christmas Eve, although there is no objection to having new members join prior to that time.

As this is our country's first Christmas in the world war, it is felt that the people will be thinking of service rather than festivities and minds generally will be turned to the battlefields of Europe, and especially to our own soldiers and sailors, and we want to add in every way to their comfort, encouragement and entertainment. Members pay annual does of one dollar, or two dollars if they wish to become subscribing or magazine members.

Let each one do his or her "bit" personally, by joining the Red Cross, or, if already a member, by persuading another to join.

Dr. and Mrs. Albin M. Saunders,

Of Norfolk, Va., visited friends in Buckingham County, this State, early in the month.

Dr. Geo. Boyd Tyler, U. S. N.,

Who was a member of the 1914 class, Medical College of Virginia, has been a recent guest at his old home at Gwathmey, Va.

The Southside Virginia Medical Association

Is to hold its last quarterly meeting for 1918

in Petersburg, December 4. Dr. Joel Crawford, Yale, and Dr. E. F. Reese, Jr., Courtland, are president and secretary, respectively.

Children Receiving Especial Attention.

The American Red Cross reports that the first of November, there arrived at Evian, where the repatries from France and Belgium are received back in France, a train loaded with 680 Belgian children, thin, sickly, alone, and all between the ages of four and twelve years—children of men who refused to work for the Germans and of mothers who let their children go rather than let them starve. They were given their first square meal in many months and evidenced their enthusiasm over it many times. Sixty per cent. of the homeless people arriving at Evian each day are children, many of the older people having died from exhaustion.

In addition to the work done at Evian, the Minister of the Interior for Belgium has appealed to the American Red Cross to save the children of that country, many of whom are exposed to shell and fire and are in constant danger of loss of life or limb. For this purpose, asylums are being organized in France and Switzerland, where they can be kept in safety.

Apart from helping our own countrymen in the service, could there be any stronger plea for us to help the Red Cross than by giving our mite to succor these children? And this is only one of the many works being done by the Red Cross.

Base Hospital No. 45,

Of the Medical College of Virginia, November 5, issued the first number of a bulletin which it will publish to disseminate necessary information among the personnel and furnish news of those who have been assigned to active duty. A complete list is given in this first number of the medical, nursing and enlisted personnel. It furnishes interesting reading to members of Base Hospital No. 45, as well as to their many friends scattered throughout this and other States. It has been positively decided that Miss Ruth Robertson, of St. Luke's Hospital, this city, is to be chief nurse of the base hospital.

Dr. J. W. Palmer,

Ailey, Ga., was elected president of the Georgia State Board of Medical Examiners, at its annual meeting, recently held in Atlanta.

The Clinical Congress of Surgeons of North America,

At its meeting held in Chicago, last month, elected Dr. John G. Clark, Philadelphia, president; Dr. William J. Mayo, Rochester, Minn., president-elect; and re-elected Dr. Franklin H. Martin, Chicago, secretary general.

The U. S. Civil Service Commission,

Washington, D. C., announces open competitive examinations December 5, at several places in each state, for men only, for the purpose of securing a pathologist to fill a vacancy in Freedmen's Hospital, Washington, at $2,000 a year, and future vacancies requiring similar qualifications, at this or higher or lower salaries.

Examinations will also be held on the same date, for both men and women, to secure a medical interne to fill a vacancy in St. Elizabeth's Hospital, Washington, at $900 a year and maintenance, and future vacancies requiring similar qualifications, at this or higher or lower salaries.

For both examinations, applicants must be twenty years of age or over on date of examination, and graduates of medical colleges of recognized standing. Full details may be obtained of the above Commission.

Obituary Record.

Dr. M. L. Withers,

Wallace, Va., died at a Richmond hospital, November 11, aged 69 years. He was a graduate of the College of Physicians and Surgeons, of Baltimore, in 1878, and was a prominent physician in his section.

Dr. Frank M. Winchhester

Died at his home in Charlotte, N. C., November 11, after a long illness. He was sixty years of age, and had received his medical education at Jefferson Medical College, Philadelphia, from which he graduated in 1883. He was past grand master of the North Carolina Grand Lodge of Masons and had, for many years, taken an active interest in Masonic work in that State.

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Original Communications.

SURGICAL CONSTIPATION AND DIARRHŒA.

By SAMUEL G. GANT, M. D., LL. D., New York, N. Y.

Surgical constipation or *obstipation* is quite common, and frequently complicated by *intestinal stasis* and *auto-intoxication*, but does not exist as often as Lane implies.

The papers, lectures and work of some surgeons, indicate that intestinal stasis is common, and invariably requires surgical intervention, and many operators are afflicted with Laneitis, an affection characterized by an obsession that impels them to remove the colon or short-circuit the patient's plumbing.

Lane's visits have added greatly to our mortality, are responsible for many chronic invalids, for, through his influence, incapable and inexperienced surgeons perform serious operations upon many constipated patients, who could be relieved by less radical measures.

Too much importance is placed upon kinks, ptosis, pericolic membranes, and ileo-cecal valve incompetence as causes of constipation and auto-intoxication, colonic resection and intestinal exclusion, and too little upon surgical lesions responsible for chronic diarrhœa.

Surgical Diarrhoea:—Chronic diarrhœa from persistent gastrogenic and enterogenic dyspepsia, psychic emotions, neurogenic disturbances, ptomaine poisoning, constitutional affections, vocational diseases, foreign bodies, fecal impaction, dietary indiscretion, careless living or exposure can be relieved or cured by freeing the bowel of irritating ingesta, toxins and feces, restricting the diet, having the patient rest in bed and prescribing medicines which control peristalsis, minimize the hypersecretion of mucus, diminish fermentation and putrefaction, alleviate pain, facilitate digestion and quiet the nerves.

When these conditions do not respond to the above treatment, it is because the intestinal mucosa has become congested or ulcerated, and the patient requires vigorous treatment or an operation.

Most often chronic diarrhœa is caused by ulcerative, catarrhal, luetic, tubercular, entamebic, balantidic, coccidic, flagellate, helminthic or gonorrheal colitis, complicated by mixed infection, and when usual therapeutic measures, together with irrigation from below, fail to heal the bowel and arrest diarrhœa, the disease has caused serious changes in the mucosa and requires surgical intervention, viz.: *appendicostomy*, *cecostomy*, Gant's *enterocecostomny* or *colostomy*, so that the entire colon and rectum and a part of the small intestine can be flushed daily with copious warm, medicated solutions.

When direct bowel treatment of catarrhal and specific colitis fails to accomplish its purpose, the small intestine is extensively involved or the colon is always irrigated while the patient is in the same posture, which prevents the solution from coming in contact with all sides of the diseased gut.

Following *appendicostomy*, *cecostomy* and the writer's *enterocecostomy*, through and through irrigation of the colon for days or a few weeks, with a warm one or two per cent. balsam of Peru, boric acid, ichthyol, quinine, or permanganate of potassium solution, diarrhœa patients gain rapidly in weight, are relieved of cramps, abdominal soreness, anemia and auto-intoxication, and their evacuations become regular in number and consistence.

The good results from direct colonic irrigation in ulcerative colitis are due to the medication and mechanic action of the solution in cleansing the colon of toxins, acrid discharges, irritating feces and *debris*.

The writer regrets that lack of space forbids his giving the technic employed by him in

the operations of *appendicostomy*, *cecostomy* and *enterocecostomy*, which is so useful in the treatment in all forms of catarrhal and specific colitis, causing frequent and fluid evacuations.

Surgical diarrhœa may also be induced by all types of chronic obstructions responsible for intestinal stasis and auto-intoxication, but it is not encountered until the *block* has become serious or the mucosa above it extensively ulcerated.

This type of diarrhœa, which is usually accompanied by slight or distressing intestinal stasis and auto-intoxication, has been given slight or no consideration by physicians and surgeons.

That you may better understand the characteristics of obstructive diarrhœa and its treatment, the writer will discuss the subject fully.

OBSTRUCTIVE (MECHANIC SURGICAL) DIARRHŒA.

General Remarks:—In obstructive diarrhœa the evacuations are frequent and liquid, incident to fecal impaction, foreign bodies or lesions that occlude the bowel so that *solid* are retained and *fluid feces* get by and are evacuated at frequent intervals.

If the importance of diarrhœa as a diagnostic sign of chronic intestinal obstruction and other colonic and rectal diseases was better understood, many lives would be saved annually, because many bowel affections that terminate fatally would be diagnosed early, operated upon and cured. Hence, the rectum and sigmoid of every patient complaining of chronic loose movements or straining at stool should be carefully examined.

In this discussion, *diarrhoea* and *obstipation* (constipation) naturally go hand in hand, because, as a rule, patients afflicted with frequent evacuations consequent upon obstruction suffer, first, from constipation, then costiveness alternating with loose movements and finally diarrhœa.

Physicians, owing to past and present defective methods of under-graduate teaching, generally hold that diarrhœa is nearly always consequent upon errors in diet, nervous phenomena, digestive disturbances, enteritis, colitis, ptomaine poisoning, affections of the liver, pancreas or other organs. These affections are unquestionably frequent factors in diarrhœa, but they by no means cover all cases, because bowel obstruction is responsible for loose movements in many instances, though one hears little about it in our colleges, medical societies, text-books or current literature.

The writer for many years has done what he could to point out the various types of diarrhœa, advise against their medical treatment in so far as practicable, and emphasize the good results obtainable by direct treatment of the bowel and surgical operations.

The writer operates frequently for the relief of obstipation and diarrhœa due to intestinal blocking, probably seeing a greater percentage of individuals afflicted with obstructive diarrhœa than general practitioners, and his experience has convinced him that mechanic diarrhœa prevails in from 15 to 20 per cent. of the cases, and the location and character of the obstruction can usually be determined when a careful examination is made.

The obstructive is frequently mistaken and treated for other types of diarrhœa, because, through ignorance or carelessness, physicians do not arrive at a correct diagnosis, which is surprising, because, with the aid of test-meals, palpation, percussion, bismuth injections, the fluoroscope, X-ray photographs, inflatable bag and sigmoidoscopic examination, peristaltic waves can be studied and lesions occluding the bowel located with precision and the cause of gastrogenic and other diarrheal conditions determined through examinations of the stomach and intestinal content.

Obstructions located in the *esophagus* and *stomach* seldom induce diarrhœa, and when they do, increased evacuations result from digestive disturbances or local irritation of the nerves, which lead to reflex phenomena, augmented peristalsis, and glandular secretion.

Obstruction of the *small intestine* and consequent diarrhœa increase in frequency from above downward; but blocking responsible for chronic diarrhœa is located in the *colon*, *sigmoid flexure* or *rectum* in 80 per cent. of the cases. In the writer's experience obstruction has been encountered most often in the rectum, and then in order of their frequency, the sigmoid, splenic and hepatic flexures, cecum, and transverse colon.

It was observed in this class of cases that the ascending and descending colons were rarely blocked and that lesions, benign or malignant, causing obstruction, were located in the segments of gut most frequently subjected to trauma.

Splanchnoptosis, coloptosis, adhesions, kinks,

angulations and invagination are the chief etiologic factors in obstruction involving the small bowel, cecum, ascending, descending and transverse colons; but malignant neoplasms, diverticula and strictures usually cause occlusion of the sigmoid flexure and rectum.

The writer has observed mechanic and other types of surgical diarrhœa more frequently in men than women, and individuals between twenty and forty years of age than in older or younger persons, except cancer patients, whose ages varied from forty to sixty-five.

Numerous types of intestinal obstruction cause frequent or fluid evacuations, some of which constantly block the bowel, while others intermittently obstruct the fecal current, excite peristalsis, augment the secretions and cause diarrhœa for a shorter or longer period.

Sometimes loose movements are induced by a *single* mechanic cause, but at others obstipation and diarrhœa result from bowel blocking at two or more points, viz.: in multiple stricture, angulation, polyposis and other lesions when complicated by adhesions, extra-intestinal pressure, tumor or fecal impaction in the rectum or colon.

Physicians often fail to cure patients thus afflicted because their examination is superficial and they detect and treat but one obstruction and leave others undisturbed. The writer has several times, in the same case, discovered obstructing lesions located in the rectum, sigmoid, colon and abdomen, capable of producing mechanic diarrhœa. In patients where there are multiple obstructions, diarrhœa is usually due to pericolic membranes or adhesions, the sequelae of appendicitis, typhlitis, colitis, typhoid fever, peritonitis or suppurative disease in the pelvis or abdomen, which binds the bowel to the parietal peritoneum, small intestine, stomach, diaphragm, bladder or female adnexa.

Etiology.—Frequent and fluid movements incident to acute and chronic intestinal obstruction may be caused in several ways. Sometimes the occlusion is marked and only mushy or liquid feces can pass; in others, irritation causes the secretion of mucus in large quantities or the lesion stimulates peristaltic activity, which interferes with digestion, and hurries the feces downward to be discharged before the absorption of water takes place or they become solidified. Frequently in bowel blocking or intestinal stasis, fermentative, putrefactive and other intestinal bacteria or their toxins are present to augment intestinal peristalsis, glandular secretion and the number of movements by their action upon the mucosa, nerves or circulation.

Another factor which tends to aggravate diarrhœa in intestinal obstruction is the nervous state of the patient induced by the thought that he is suffering from a dangerous or incurable disease.

Chronic intestinal obstruction is nearly always complicated by ball-like fecal masses, which irritate the bowel and increase the movements. Fecal tumors usually cause pressure necrosis, stercoral ulcers and exposure of the nerve filaments, which, being irritated, excite peristalsis and a greater number of stools. When the rectum is filled with scybalae or putty-like masses, fluid feces continuously dribble past the impaction and out at the anus. Now and then irritating gases collect above the obstruction and cause or aggravate diarrhœa until they have been expelled.

Any of the following mechanic or obstructive lesions may block the bowel and cause chronic diarrhœa alone or alternating with constipation: *Congenital deformities*, *extra-intestinal pressure*, *strictures*, *malignant* and *non-malignant neoplasms*, *foreign bodies*, *intestinal calculi* (*enteroliths*), *fecal impaction* (*coprostasis*), *adhesions* (including *tumefactions*, *pericolic membranes*, *peritoneal* and *fibrous bands*), *angulations*, *flexures*, *diverticula*, and *rectocele*, *pericolitis* and *perisigmoiditis* (*pericolic membranes*), *sacculation* (*recto-colonic*), *abnormal* or *diseased mesentery*, *volvulus*, *kinks*, *hernia*, *invagination*, *intussusception*, *rectal procidentia*, *splanchnoptosis* and *enteroptosis*, *paralytic ileus*, *dilatation of the colon*, (*congenital* and *acquired*), *post-operative sequelae*, *enterospasm*, *intestinal parasites*, *hypertrophy of O'Beirne's sphincter*, *the rectal valves*, *levator ani* or *sphincter muscles*, *anterior deviation of the coccyx* and *diseases of the rectum and anus* (*hemorrhoids* and *fissure*).

Symptoms.—The symptoms of obstructive diarrhœa depend on its course, duration, and degree of obstruction. When blocking is almost complete, acute constipation ensues, and when less marked chronic constipation and diarrhœa are induced and the symptoms of the *former* are more dangerous than the *latter*,

which develop slowly as obstruction increases but seldom completely obstructs the bowel. In *acute* obstructions cathartics are ineffective, and high enemata at first bring away a small amount of feces and are returned clear thereafter. Persons suffering from acute obstruction frequently have a desire to evacuate the bowel, but pass nothing but mucus. This type of obstipation is most common in childhood, is of sudden onset and characterized by continuous pain in the central abdomen. Unless the obstruction is promptly relieved the patient becomes restless, breaks out in a cold perspiration, hiccups, is nauseated, first vomiting stomach contents, then bile, and finally fecal matter, has a furred tongue, facial expression of distress, weak thready pulse, subnormal temperature, labored respiration and a distended and tender abdomen. Usually peristalsis is violent and the intestinal movements may be visible or felt by palpation when the abdominal wall is thin.

When the block is not promptly relieved the patient soon dies from exhaustion, toxemia or septic peritonitis.

Following an attack of acute mechanic obstruction, patients frequently suffer from chronic constipation, as a result of the paralyzed condition of the intestine incident to prolonged distension or *persistent diarrhea*, which prevails where retained toxins are virulent or abundant.

The systemic manifestations of chronic obstructive diarrhœa and stasis are similar in many ways to those of diarrhœa resulting from improper diet, irregular living, catarrhal and ulcerative colitis and digestive ailments, but local disturbances vary with the nature of the lesion causing the occlusion.

Chronic obstructive constipation or diarrhœa may be preceded by peritonitis, appendicitis, typhoid fever, pelvic inflammation, injury, surgical operation and formation of adhesions, but most frequently are induced by bowel lesions, which impede the fecal current, or congenital deformities. The patient usually enjoyed good health until the bowel began acting queerly, the stools became delayed, abnormal in shape or frequent and watery. In this type of diarrhœa the character of the evacuations and local manifestations depend upon the part of the bowel involved and nature of the obstruction. In one case diarrhœa is *continuous*, while in another it is intermittent or *alternates* with constipation and there may be periods between the attacks when the bowel acts normally.

Diarrhœa and constipation are more obstinate when the lesion is in the sigmoid flexure or rectum than in the small intestine or upper colon. When the small gut is blocked, feces, owing to their liquid state, find their way past the obstruction, to become solid; usually the movements are thin and irregular, but when the sigmoid flexure or rectum is involved the evacuations are frequent, the stools are fluid or semi-solid, irregular in shape and the patient constantly feels as if there was something in the lower bowel that should be expelled.

Diagnosis.—One can easily differentiate *ordinary* from *obstructive* diarrhœa, but it is difficult to distinguish between the various intestinal lesions responsible for chronic loose movements and obstipation.

Obstruction rarely takes place in the *small bowel*, and when it does diarrhœa seldom ensues, because the feces have ample time to become semi-solid or firm after passing the block, but obstructive lesions are frequently encountered in the colon, sigmoid flexure and rectum.

Patients afflicted with chronic mechanic (obstructive) diarrhœa, usually give a history of having previously suffered from indigestion, irregular evacuations, auto-intoxication, ptomaine poisoning, enteritis, catarrhal or specific colitis, peritonitis, appendicitis, diverticulitis, salpingitis or suppurative disease within the abdomen; affections which often complicate or cause adhesions, pericolic membranes, kinks, twists, stricture or distorsion of the colon.

In such cases, when loose movements prevail or alternate with constipation and recurring fecal impaction, the sufferer complains of abdominal soreness, pain on pressure at a given point, meteorism, one-sided abdominal distension, cramps unrelieved by evacuation and intestinal auto-intoxication, one is justified in diagnosing the case as *obstructive diarrhoea*, irrespective of whether or not he can determine the exact nature of the lesion responsible for the block.

Palpation, *succussion*, *percussion*, *auscultation* and *distension* of the colon with air, gas or water, materially aid in the diagnosis, when the patient is made to change his position during the examination, but an opinion should

not be given until the abdomen has been examined through the fluoroscope and radiographs made of the colon.

Usually obstructing lesions causing obstipation, diarrhœa and intestinal stasis are diagnosed with comparative ease, but sometimes it is exceedingly difficult to differentiate between the various types of chronic intestinal obstruction, and the writer regrets that he has not more space to devote to this subject.

Treatment of Surgical Diarrhoea.—Because of the many and varied types of diarrhœa, it is impossible to formulate a *routine* treatment. Those afflicted with this complaint who come to the writer, are asked, "*Are you seeking temporary relief?*" or "*Do you desire that I shall employ a course of treatment which will have for its object a permanent cure?*" because the therapeutic measures to be instituted hinge upon the patient's decision.

One can, by controlling the diet and administering medicines, which contain astringents, antiseptics, opiates, etc., make the patient more comfortable and reduce frequency of the stools, but when a cure is insisted upon, symptomatic treatment, except in urgent cases, should be discarded for surgical measures, which eliminate all causes—local, general, nervous or psychic, responsible for diarrhœa.

This is evidenced by the writer's experience, which has demonstrated that in many instances diarrhœa can be cured by surgical intervention, after it has been unsuccessfully treated for years by drugs and other non-surgical measures.

Medicine can be relied upon to lessen pain and diminish frequency of evacuations in acute and chronic diarrhœa, but together with a restricted diet, will not effect a cure when the bowel is blocked or extensively ulcerated.

The indiscriminate prescribing of drugs for surgical diarrhœa is to be condemned, because they destroy the appetite, encourage insomnia, interfere with digestion, are nauseating, cause headache, irritate the gastro-intestinal mucosa, lead to the formation of enteroliths (bismuth and salol), which cause obstruction, and the patient often becomes a *drug habitue*.

Because of the surprisingly good results obtained in the surgical treatment of chronic diarrhœal affections and the failures and complications which follow the pernicious use of medicine, the writer resorts to surgery and does not prescribe drugs except when necessary to relieve annoying or dangerous symptoms.

Direct bowel treatment is not employed as frequently as it should be and the writer believes that more can be accomplished in the treatment of chronic loose movements, consequent upon catarrhal and specific colitis, than in any other way.

Inflamed and ulcerated areas in the intestinal mucosa readily respond to direct treatment after other measures instituted for their cure have failed. Sometimes the colon can be irrigated by way of the anus, but when upper segments of the bowel cannot be reached, *appendicostomy*, *cecostomy*, or the writer's *enterocecostomy* are indicated, so that *through and through irrigation* may be instituted.

Barring obstructive, the vast majority of diarrhœas characterized by the presence of mucus, pus and blood in the stools, can be quickly and permanently relieved in this way.

The treatment of mechanic or obstructive diarrhœa is *non-operative* and *surgical*, but the former only makes the patient more comfortable and extends life, while the latter is curative and should be practised as soon as the patient's consent can be obtained, unless he is unable to withstand the operation.

Non-Operative Treatment.—The palliative treatment of diarrhœa incident to obstructing lesions consists chiefly in (a) regulating the diet so that the bulk of excreta is diminished and the feces are non-irritating; (b) prescribing antiseptics, astringents and opiates to lessen fermentation and putrefaction, attenuate or destroy pathogenic bacteria and their toxins, diminish the evacuation and relieve pain and cramps; (c) administering castor oil when loose movements are due to coprostasis and frequent colonic medicated irrigation to minimize auto-intoxication, wash out discharges, toxins and bacteria, dissolve and flush out irritating feces and heal the inflamed and ulcerated mucosa; (d) prescribing tonics to improve the patient's condition, and (e) having the sufferer refrain from worrying, taking violent exercise, remaining in the sun, eating ice cream or shell fish, and indulging in alcoholic beverages.

By following this plan, the condition of many patients can be markedly improved and they think they are on the road to recovery when such is not the case, because permanent relief is not to be expected until the lesion

causing chronic obstruction has been removed. The writer informs the sufferer what he may expect and lets him decide whether he prefers temporary help through palliative measures or a permanent cure, which cannot be accomplished except through operative interference. When the facts have been fully explained the average patient will insist upon an operation, because he knows from experience that he cannot obtain a cure by less radical treatment.

Exceptionally, lesions causing obstructive diarrhœa can be eradicated by exercise, massage, electricity or vibration, but in the majority of instances they cannot except by operation, and it has been the writer's custom to designate diarrhœa as surgical when it is traceable to obstructive or mechanic lesions.

Surgical treatment of obstructive diarrhœa has a complex etiology, and different procedures are required to cure it. Most of the operations can be quickly performed, are not very dangerous, and give surprisingly good results.

Congenital defects and sequelae following operation for their cure, are relieved by freeing the gut and bringing it down to the normal site, enlarging the anal outlet or performing colostomy; extra-intestinal pressure is eliminated by removing tumors or adhesions compressing the bowel. Malignant and benign tumors and strictures are excised or the bowel calibre is widened by forcible divulsion or proctotomy, when in the rectum, and fecal impactions are gotten rid of by breaking them up with the finger or gouge used through the proctoscope, so that the feces can be softened and evacuated by enemata.

Exudations are broken up by a gauze wipe and *strong fibrous adhesions* are destroyed with the finger, except when firm and extensive; then they are ligated, excised and raw surfaces upon the bowel are closed or covered with peritoneum.

Pericolic membranes are ligatured at either extremity and peeled from the colon. *Angulations*, *kinks*, *flexures* and *volvulus* are obliterated by destroying adhesions, freeing the gut and anchoring it in its normal position.

Diverticula, *rectoceles* and *colonic sacculations* are excised, when extensive and inflamed, or buried by infolding, or removed by an elliptical incision and suturing when small. *Invagination*, *intussusception* and *colonic ptosis* are corrected by replacing and anchoring the bowel; *congenital* and *acquired dilatation* of the colon are relieved by coloplication plus colopexy.

Obstipation from *hypertrophy* of the *levator ani muscle* is relieved by myctomy under local anesthesia; *obstructing rectal valves* are divided with a Gant clamp, and constipation caused by *hypertrophy or spasmodic contraction of the sphincter* is cured by anesthetizing and severing the muscle.

Obstruction from *fissures* or a *narrow anal canal* is overcome by splitting the lower rectum in the posterior median line, and, finally, *hemorrhoids*, which occlude the bowel, are removed by the ligature, clamp and cautery, or modified excision operation.

In conclusion, the writer reiterates that the time has arrived when "colon snatching" and "changing the patient's plumbing apparatus" should be abandoned, so surgeons may have time to study the diagnosis and treatment of the many surgical lesions responsible for diarrhœa.

471 *Park Avenue.*

WEIGHTS AND MEASURES IN THE MANAGEMENT OF DIABETES.*

By JAS. H. SMITH, M. D., Richmond, Va. Associate in Medicine, Medical College of Virginia.

The successful management of a case of diabetes involves a clinical sense that cannot be reduced to figures. At the same time, the condition demands a nicety of calculation exceeded, I think, in no department of therapeutics unless it be the physics of the eye. Given an understanding of the underlying metabolic principles of diabetes, and having gained the co-operation of the patient, the treatment of each case represents a study in applied arithmetic. The idea of mathematical accuracy is introduced at the outset in the belief that the hope of the diabetic lies in a diet accurately prescribed and faithfully compounded. It is no more than is asked of the doctor and the pharmacist in the matter of drugs.

The factors concerned are chiefly food intake and body weight, glycosuria and acidosis.

When it is realized that in the normal standard diet, carbohydrates constitute 65 per cent. (400 grams), of the whole, and that only rarely has the diabetic a carbohydrate tolerance approaching 100 grams, it is at once apparent

*Read before the Southwest Va. Medical Society, at Pulaski, Va., June 27-28, 1917.

that a profound readjustment is necessary. As against 400 grams of carbohydrates, the figures for proteins and fats are about 100 grams each in the normal ration. Formerly, in recognition of the necessity for cutting down the carbohydrate intake, we took the obvious step and advised making up on proteins and fats. Thus, no doubt, we shortened the lives and added to the misery of many of our patients.

The caloric values of the different food principles and of alcohol are approximately as follows:

Carbohydrates	4	calories	per	gram
Proteins	4	"	"	"
Fats	9	"	"	"
Alcohol	7	"	"	c. c.

Thus it is seen that the high protein-fat diet formerly used was adequate to its intended purpose if it could be digested and metabolized. But, unfortunately, it usually overtaxed the metabolic powers.

The three great food principles stand in different relations to the two great metabolic faults involved in diabetes, and yet carbohydrates, proteins and fats are all concerned with both glycosuria and acidosis.

With relation to glycosuria:

Carbohydrates are foremost.

Proteins are potentially glycogenic. They actively contribute to sugar formation in proportion to the severity of the diabetic tendency. In the worst cases nearly 60 per cent. of metabolized protein appears in the urine as sugar. represented by the dextrous-nitrogen ratio of 3.65 to 1.

Fats do not form sugar, though by adding to the general burden of metabolism may weaken the mechanism for utilization of carbohydrates and protein.

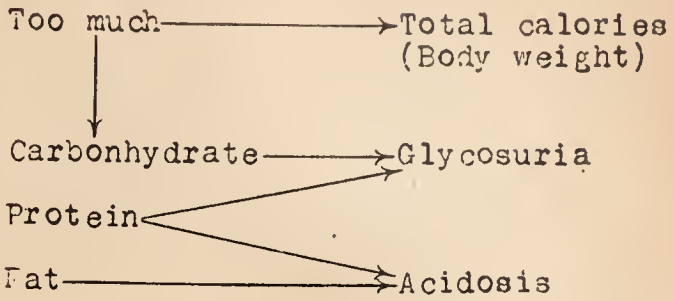
With relation to acidosis:

Fats are foremost.

Proteins are capable of contributing to increased acid formation.

Carbohydrates do not form acids. On the contrary, the presence of a surplus of carbohydrates within the blood and tissues tends to check an increasing acidosis through providing fuel for oxidation, thus sparing the fats from burning. Still it must be remembered that the continued presence of carbohydrate in excess of the ability of the tissues to utilize them causes a glycosuria to persist, thereby aggravating the tendency to acidosis always associated with a persistent glycosuria.

These relations may be presented schematically as follows:



The Quantitative Determination of Sugar in the Urine:

Of several practical methods, the one best suited to the general practitioner is probably Benedict's method of titration.[1] The formula of the solution is as follows:

Pure crystallized copper sulphate	18 grams
Crystallized sodium carbonate	200 "
(or anhydrous sodium carbonate 100 grams)	
Sodium (or Potassium) citrate	200 "
Potassium sulphocyanid	125 "
5 per cent Potassium ferrocyanid solution	5 c. c.
Distilled water q. s. to	1000 c. c.

The quantity of urine required to reduce 25 c. c. of this reagent contains 50 milligrams (0.050) glucose.

Technique: To 25 c. c. of the reagent add 10 to 20 grams crystallized sodium carbonate (or half the quantity of the anhydrous salt). The salt need not be accurately measured. If the percentage of sugar is believed to be high, the urine should be diluted. The reagent is then heated to boiling, and when the sodium carbonate is dissolved, the urine is run in by a graduated pipette. The titration is carried out rather rapidly until the color begins to change from the clear deep blue to a chalky blue; then drop by drop until reduction is complete as shown by the disappearance of the blue color through a light blue-green to a chalky white.

The simplicity of the process makes it suitable for the most modest laboratory. When the percentage of sugar is ascertained, the total 24-hour quantity may be readily calculated. Thus, if the 24-hour quantity of urine is 3000 c. c., and the urine has been diluted one part urine to four parts water, and 5 c. c. of the diluted mixture has been used, then 1 c. c. of undiluted urine contains .05 gram glucose, or 5 per cent., and the total quantity of sugar for the 24 hours is 150 grams.

1. Benedict, S. R., The Quantitative Estimation of Glucose in the Urine. J. A. M. A., 1911, LVII, 1193.

I have frequently checked Benedict's method against the polariscope, and have found it accurate within a fraction of one per cent. Indeed, if the urine contains acetone bodies, the Benedict method is more reliable than the polariscope on account of the fact that B-oxybutyric acid is levarotary, requiring a correction of 1 per cent. added to the dextrose reading for each 2.2 per cent. B-oxybutyric acid present. In ordinary practice, however, the amount of the acid present is an unknown quantity.

A thoroughly scientific management of a case of diabetes no doubt requires frequent determinations of the degree of glycosuria when present. Having made the original determination, however, I find myself making subsequent estimations less frequently. For the clearer one sets up the standard of a sugar-free urine, the less the interest in the quantitative estimations of sugar. The significant question is simply: Is glycosuria present or not? This the patient himself should be enabled daily to determine.

Determination of the Degree of Acidosis: The paramount acute danger in diabetes is that attendant upon the incomplete combustion of fats, the process halting in the intermediary stage of the ketone bodies, B-oxybutyric acid, diacetic acid and acetone, known clinically as acidosis. For a long time after the significance of acidosis was recognized, we had no practical means of measuring the state within the body tissues. Quantitative tests for acetone in the urine were available, quantitative estimations of the urinary ammonia were helpful, and it was possible also, by methods such as Hart's, to determine the relative amounts of the ketone bodies in the urine from day to day. But this gave little or no clue to the patient's danger, since we are concerned not so much with the quantity of these products discharged as with what remains. It is, therefore, one of the most helpful of the advances recently made, that we are enabled to determine quite acurately a measure of the degree of acidosis by means simple enough to be clinically applicable.

While several different methods have been devised for this purpose, the simplest is the determination of the carbon dioxid tension of the alveolar air of the lungs. The technique of Marriott may be compared with the estimation of the hemoglobin of the blood by the Sahli method, and can be easily carried out at the bedside. The principle underlying the method[2] is as follows:

The accumulation in the blood of the ketone bodies of acidosis results in displacement of the loosely bound carbon dioxid radical, thus lowering the intra-vascular carbon dioxid tension. According to the laws of osmosis, the carbon dioxid tension of the lungs is maintained in close equilibrium with that of the blood. Thus, when the tension is lowered in the blood stream, it varies in direct proportion in the alveolar air, which can be collected and measured.

The patient breathes into a rubber bag until the contents of the bag represent the gaseous proportions of the alveolar air. The air is then blown through a standard solution of sodium bicarbonate with phenol-sulphonephthalein as an indicator, until the solution is saturated by the air. "The reaction of such a solution will depend on the relative amounts of alkaline bicarbonate and the acid carbon dioxid present. This, in turn, will depend on the tension of the carbon dioxid in the air with which the mixture has been saturated, and will be independent of the volume of air blown through, provided saturation has once been attained." The reading is made by comparison with a series of standard solutions made from graduated mixtures of alkaline and acid phosphates. The normal reading is approximately 45 m. m. for adults, and from 3 to 5 m. m. lower for very young children. A reading as low as 30 is sufficient to put the clinician on his guard; 20 is positively dangerous; below 20 coma may be regarded as more or less imminent.

Special masks have been devised for collecting the air from comatose and very young patients. For the former, however, I should regard the determination of carbon dioxid tension as largely a matter of scientific interest, for I know of no treatment that will permanently relieve a complete coma due to acidosis. Intravenous injection of a 2 to 4 per cent. solution of sodium bicarbonate will, at times, result in remissions, but as far as I know, only temporary. Incidentally, it may be said the administration of sodium bicarbonate vitiates the carbon dioxid tension reading by increasing it.

Various reports on the use of the Marriott apparatus indicate the reliability of the method

2. Marriott, W. McK., J. A. M. A., 1916, LXVI, 1594,

as compared with the more technical determinations of the alkali reserve and the hydrogen-ion concentration of the blood.

Food Values: Every diabetic should, for a while at least, weigh out the food he eats. It is impossible for him to get what he should have and not to get what he should not have without accurate weighing. The scales, preferably, should be graduated in grams, and should have a capacity of 70 grams, or at least of 50 grams. The Chatillon scale has been found quite satisfactory, though probably is not so substantial as the balance type. Since the European war some difficulty has been encountered in getting the latter kind of scale. If one sees any considerable number of diabetics, it is convenient to keep a pair of the scales on hand for the use of patients until they can provide themselves.

The willingness of the patient to use the scale can be made effective only by his doctor's knowledge of food values. Easy access may be had to many sources of this information. Indeed, with a little experience, the values of the staple foodstuffs become fixed in the mind. For convenience, two tables from Joslin's[3] recent book are here inserted:

Important Food Values.

100 Grams	Carbohydrates	Protein	Fats	Calories
Oatmeal, dry weight	67	17	7	400
Cream, 40 per cent.	3	3	40	400
Cream, 20 per cent.	3	3	20	200
Milk	5	3	3	60
Brazil Nuts	7	17	67	700
Oysters (6=100 grams)	4	6	1	50
Meat; lean, uncooked	0	20	10	170
Meat; lean, cooked	0	27	17	260
Bacon	0	17	50	520
Egg, *One**	0	6	6	78
Vegetables, 5 per cent	3	2	0	20
Vegetables, 10 per cent	6	2	0	32
Potatoes	20	3	0	90
Bread	60	10	0	300
Butter	0	0	80	720
Fish	0	17	0	68
Broth	0	2	0	8
Small Orange* or Half Grape-fruit* 150 gms. net edible	10	0	0	40

The above table has been modified from the standard of 1 ounce, (30 grams) to 100 grams, except as shown (*), making the gram weights shown equivalent to percentages.

Foods Arranged Approximately According to Per Cent of Carbohydrates.

Vegetables*
(Fresh or Canned.)

5 Per Cent.

Lettuce	Tomatoes
Cucumbers	Brussels Sprouts
Spinach	Water Cress
Asparagus	Sea Kale
Rhubarb	Okra
Endive	Cauliflower
Marrow	Egg Plant
Sorrel	Cabbages
Sauerkraut	Radishes
Beet Greens	Leeks
Dandelions	String Beans
Swiss Chard	Broccali
Celery	

10 Per Cent.

Pumpkin	Beets
Turnip	Carrots
Kohl-rabi	Onions
Squash	Mushrooms

15 Per Cent.

Green Peas	Parsnips
Artichokes	Canned Lima Beans

20 Per Cent.

Potatoes	Green Corn
Shell Beans	Boiled Rice
Baked Beans	Boiled Macaroni

Fruits.

5 Per Cent.

Ripe Olives (20 per ct. fat)	Grape-fruit

10 Per Cent.

Lemons	Gooseberries
Oranges	Peaches
Cranberries	Pineapple
Strawberries	Watermelon
Blackberries	

15 Per Cent.

Apples	Cherries
Pears	Currants
Apricots	Raspberries
Blueberries	Huckleberries

20 Per Cent.

Plums	Prunes
Bananas	

Nuts.

5 Per Cent.

Butternuts	Pignolias

10 Per Cent.

Brazil Nuts	Pecans
Black Walnuts	Filberts
Hickory Nuts	

3. Treatment of Diabetes Mellitus: Joslin, 1916. Much of the detailed data presented in this paper is taken from Dr. Joslin's book.

*Reckon available carbohydrates in vegetables of 5 per cent group as 3 per cent.; of 10 per cent group as 6 per cent; 15 and 20 per cent full value.

15 Per Cent.

Almonds	Pistachios
Walnuts (English)	Pine Nuts
Beechnuts	

20 Per Cent.

Peanuts

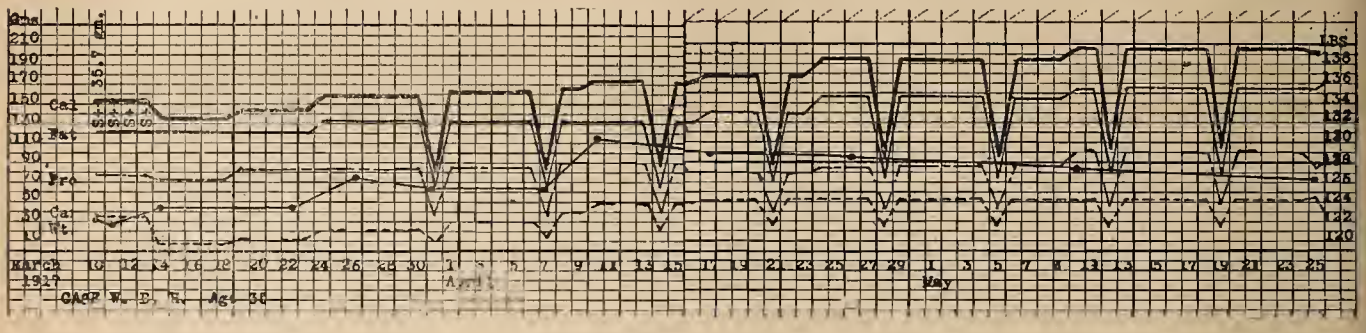
40 Per Cent.

Chestnuts

MISCELLANEOUS.

Unsweetened and unspiced pickle, clams, oysters, scallops, liver, fish roe.

Total Calories and Body Weight: Every diabetic should keep systematic watch over his body weight. As students, we learned that loss of weight in the presence of a good appetite, perhaps a ravenous appetite, is part of the symptom-complex of diabetes. As a corollary I suppose all of us deduced that a gain in weight was desirable. At any rate, prior to the work of Allen, we felt better satisfied as to the condition of the patient when he was gaining weight, the urine remaining sugar-free. One of the most valuable of the many suggestions Allen has made is the correction of this notion. It is the one radical departure from the older standards of treatment, that patients should be encouraged to remain permanently below their normal weight. It is a change which is daily justifying itself in practice, and



Case W. B. H.—Age 35.

L. W.—April, 1915.

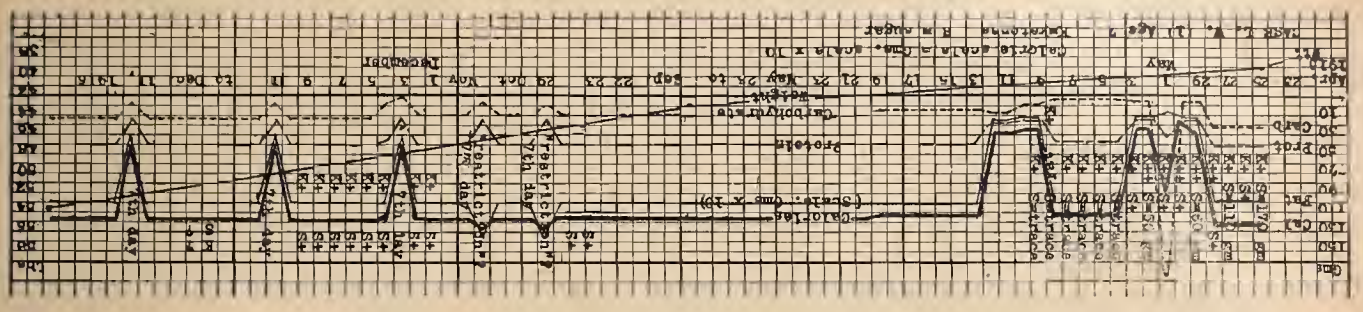
is the basis for a clear understanding of some of our failures in the past. To the accomplishment of this end we have been put on guard as to the necessity of watching not only the carbohydrate and protein intake for fear of glycosuria, not only the fat intake for fear of acidosis, but the carbohydrate, protein and fat intake, the caloric value of the diet, the body weight, for fear of both glycosuria and acidosis. The significance of this advice of Allen's will be shown in more than one place on the charts of the cases presented herewith.

According to the foregoing principles and by means of the clinical methods described, when an individual is discovered to have a persistent glycosuria or comes for the treatment of a known diabetes, the procedure would be somewhat as follows:

A carefully taken history and thorough physical examination should be recorded, including the interesting factor of heredity and such possible significant conditions as syphilis and other chronic affections. The normal and present weight should be noted. No effort should be spared in gaining the complete co-operation of the patient at the outset.

He is instructed to save a 24-hour specimen

of urine without making any change in the diet.* Instructions for saving the urine should be definite, thus: "Void completely at 8 A. M., and discard this urine. Save in a suitable container all the urine passed during the day and night, including the amount ob-



Case L. W.—Age 7.

tained by completely emptying the bladder at 8 A. M. at the end of the 24-hour period. A little boric acid may be used as a preservative. Bring the whole quantity for examination."

The daily quantity of sugar being eliminated is then determined by Benedict's method. This data is somewhat more informative if the approximate kinds and amounts of food taken during the 24-hour period are ascertained.

If there are no contraindications such as those referred to below, a fasting diet may be prescribed as recommended by Allen. The fasting diet will include clear beef broth practically *ad libitum*, with the customary amount of salt added. Usually about a quart of broth will be taken in a day. Coffee, without sugar or cream may be allowed, and if the patient is weak or under nourished, alcohol in the form of whiskey or brandy, 1 c. c. per kilo of body weight, (equivalent to about 0.5 c. c. alcohol per kilo). More frequently no alcohol is required. It is usually unnecessary to keep the patient in bed during the fasting period. In fact, another contribution of Allen's is the emphasis he has placed on the advantage of muscular exercise according to the diabetic's physical ability.

In a responsive case, the urine may become free of sugar and diacetic acid within 24 hours. Or it may require longer than four days. If at the end of four days the result is not accomplished, it is usually better to resort to intermittent periods (two days) of very moderate feeding, as, for example, is shown below for the fifth day after progressive feeding is begun; and this period of two days moderate feeding is alternated with three days of fasting.

After the urine has become sugar-free, or better, 24 hours later, feeding is cautiously begun. It may ordinarily be scaled according to the following scheme:

Scale of Increase after Fasting.

Add in Grams	1st Day	2d.	3d.	4th.	5th.	6th.	7th.	8th.
Carbohydrate	5	5	5	5	---	5	---	5 etc.
Protein	---	20	15	15	15	---	---	--- etc.
Fat	---	---	---	---	---	---	5 25	5-25 5-25 etc.

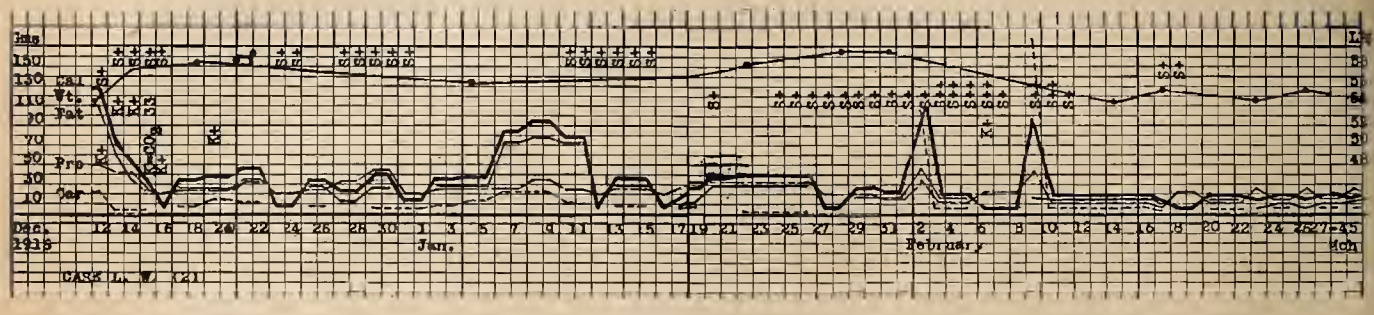
L. W.—July, 1915.

*If acidosis is considerable, the carbon dioxid tension is ascertained, and fats eliminated immediately from the diet.

The upper limits set in building up the diet are approximately as follows:

	Adults	Children
	Grams per Kilo.	
Carbohydrates	3	3
Proteins	1	2-3
Fats, q. s. to	20-40	40-70 calories per kilo.

For illustrative purposes the net weight scheme shown in the above Scale of Increase after Fasting is at once resorted to and maintained until sugar has disappeared. The former diet is then employed save for carbohydrates, which are kept at one-half the former quantity until sugar has remained absent for a month. The increase of carbohydrates after a month should not exceed five grams per day.



Case L. W.

may be interpreted in the terms of actual foods as follows:

1st. Day	2d	3d	4th	5th	6th	7th	8th
			Carbohydrate				
150 gm.	--	--	100 gm.	--	--	--	--
5% veg.	--	--	10% veg.	--	--	--	--
5	5	5	6	--	6	--	--
			Protein.				
--	3 eggs	55 gm. lean meat.	--	--	--	--	--
	18	15	15	15			
			Fats in Protein Food.				
	18	9	9	9			
			Fats.				
--	--	--	--	--	20 gm. Butter	--	--
					16	16	

The caloric values on the seventh day would be as follows:

Carbohydrates	27	x	4	108
Protein	63	x	4	252
Fats	77	x	9	693
				1053 calories.

If the patient weighs 60 kilos (132 pounds), the progressive increase in carbohydrates and fats, and perhaps somewhat also in proteins, would be continued until 20 to 40 calories per kilo were reached (1200 to 2400 total calories) or about twice the ration of the seventh day. After a satisfactory bulk in vegetables has been found to be well tolerated, the increase in carbohydrates may be supplied by bread. If the patient is showing a distinct tendency to gain in weight, unusual caution must be used in increasing his diet, especially in fats.

It is not an undesirable thing that the measure of tolerance shall be declared by reappearance of glycosuria while the patient is still under daily observation. For thus the patient gets his instruction in the tactics of retreat. When sugar appears, the fasting diet

From the beginning of treatment, while sugar is still present in the urine, the patient should be taught the copper reduction test for sugar. In this way he not only learns a very practical guide as to what he should do, but becomes an active, and therefore a readier, party to the necessary discipline. He is also trained to keep an intelligible record of the

L. W.—May, 1917.

essentials of his clinical history, which should include the following data:

Urine—(Date, Sp. Gr., Sugar); *Weight; Exercise;*

Diet—(Carbohydrates, Proteids, Fats).

The patient need not be taught any test for the acetone bodies, because the standard by which he should gauge his condition is freedom from glycosuria, and acidosis need not be feared while the urine is sugar-free.

When the tolerance of the patient has been ascertained, it is nearly always advisable to introduce one day in seven on which the diet is restricted to about one-half the usual quantities allowed. This is on general conservative principles.

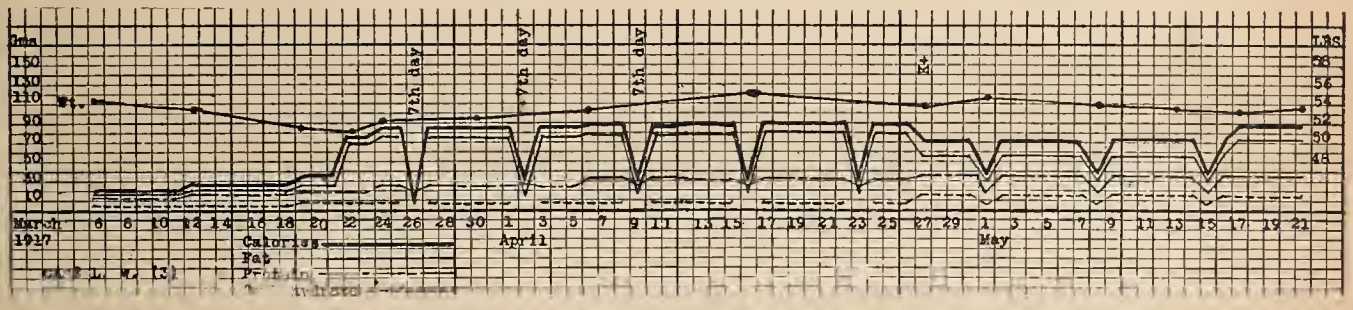
From the foregoing it is seen how it is usually possible within three or four weeks to get the patient into his desired state with respect to his individual needs. If he is sugar-free and acid-free, knows the simple technique of the recognition of glycosuria, is informed as to what he should do if sugar appears, with a dietary prescription which he will accurately weigh out as liberal and as varied as his condition permits, with the seventh day restriction as a recurring reminder of the necessity for caution, then the chief unknown factors are the patient's moral fibre and the chance of incidental disease, especially acute infections.

Caution regarding Fasting: While the great beauty of the Allen treatment lies in its comparative simplicity, Joslin has wisely cautioned against its indiscriminate application to every case. The danger lies in the special liability of some patients to acidosis. It would seem that a patient with recently developed diabetes can stand sudden and radical reductions in his diet; and a patient with long-standing diabetes can tolerate gradual changes. But a patient with long-standing diabetes may not be able to stand sudden and radical changes. The contra-indications, therefore, to the routine employment of the fast include all patients whose condition has existed for a period of years, even though the tendency to acidosis may not seem great. Naturally, this class is chiefly composed of elderly people.

Again, if acidosis is already present in considerable degree, it is better to respect it and proceed with discretion and safety. For the sudden withdrawal of carbohydrate and protein from the diet, even though fats are also withheld, deprives the metabolic mill of its grist, and throws it back on the body-fat for its supply, thus increasing the liability to acidosis.

Obese patients, likewise, furnish a ready source for the ketone bodies, and should be handled with care.

In very severe, long-standing, complicated, obese and elderly cases, as well as in all cases with acidosis, Joslin advises that, without otherwise changing the habits or diet, fat be



Case L. W.

omitted: after two days omit the protein; and then halve the carbohydrates daily until the patient is taking only ten grams; then fast. In other cases begin fasting at once. As a matter of fact, certain moderately severe, early cases may become sugar-free on this schedule before fasting is reached.

Presented herewith are four cases selected to illustrate the principles and details referred to. In none of them, however, was any set plan adhered to absolutely. It must be remembered that rules represent averages only, and frequently may be abandoned in the best interests of the patient. I do not hesitate to say, however, that some of the departures shown in the oldest of the charts (L. W.) were the result of ignorance of the present-day standards and would not be deliberately repeated.

In the case of W. B. H., the old "test diet" at one time in vogue was used. I confess I like it yet under certain circumstances, especially when I feel that I have not thoroughly

gotten the fasting confidence of the patient. The test diet (Falta) consisted of:

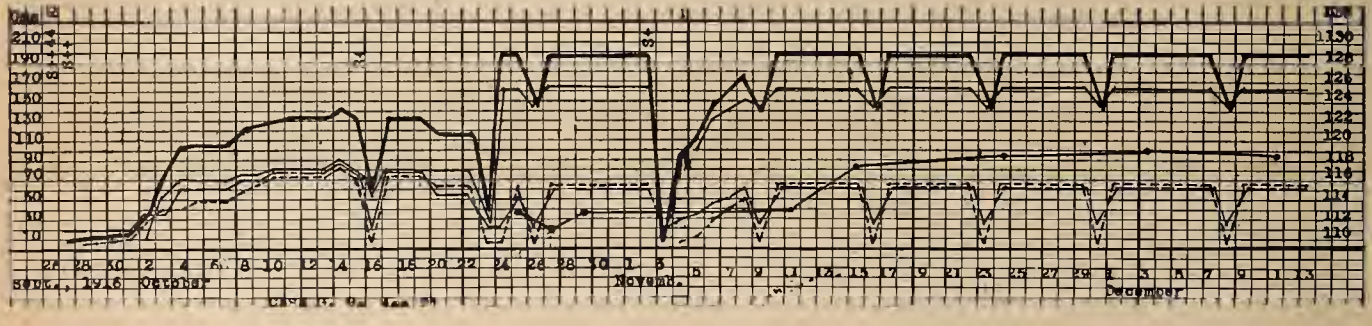
	Total Daily Grams.
Lean meats	150
Vegetables, 5 per cent.	300
Eggs	4
Butter	75
Bread	45

Coffee without cream or sugar.

Glycosuria had nearly disappeared after two days, but not entirely until bread was omitted. There has been no return of sugar, though he is taking 66 grams net weight carbohydrates, of which 45 grams is represented by bread. Since April 10th, one month after beginning treatment, he has worked all day as a railroad carpenter. The greatest point in his favor was the fact that his condition was discovered early. But glycosuria had persisted for two or three weeks under "ordinary diabetic instructions," which included liberal quantities of milk.

egg day described. In cases of obstinate glycosuria, especially if accompanied by considerable acidosis, oatmeal used in this way seems to have peculiar advantages. Within the past two years the "pot of oats," as the little patient calls it, has been resorted to three times, May 1st, 1915, and February 2nd and 9th, 1917.

In the light of present-day knowledge, a glaring error was made in this case when sugar was discovered September 2nd, 1915. A seventh-day restriction, so-called, was introduced. The carbohydrate was, indeed, cut down, but the fats and total calories were run up at the same time. This was poor therapy. The result is seen in her subsequent history for the year 1916. During this time the patient was not under observation and her mother had not been taught to examine the urine. There is, therefore, no data as to her sugar output, but she doubtless had glycosuria most of the time, as she did when next seen in December, 1916. Dur-



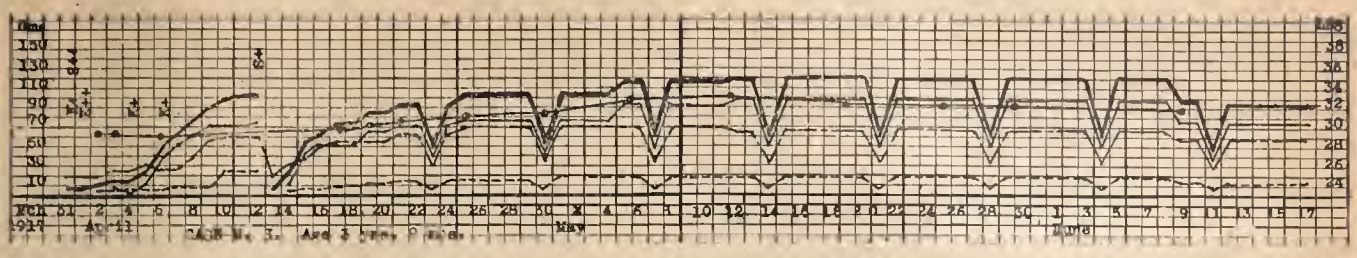
Case G. G.—Age 21.

Altogether the case of L. W. was most instructive. When first seen, she was apparently on the verge of coma, and was excreting sugar at the rate of rather more than a half pound a day. It was before the Allen method had become popularized, and treatment was begun with the test diet.

In this case the paradoxical "oatmeal day" has been used more than once with seeming advantage. I do not know that any rational explanation has ever been offered to justify the employment of this measure which cuts directly athwart the established principles of the treatment of diabetes. But I am convinced that it is at times serviceable. A day or two of preparation, consisting of vegetables of low carbohydrate content and perhaps eggs, should precede the oatmeal day; the oatmeal is given in quantities of 250 to 300 grams in twenty-four hours and is weighed dry. It is followed for two or three days by the same vegetable

ing the year she was away she also gained weight too fast. Her chart in several places illustrates the inadvisability of allowing too great a gain in weight, (December, 1916 and January, 1917). All in all, from the lack of opportunity to observe the patient and mismanagement in some important respects when the opportunity offered, it seemed in February, 1917, that we were about to pay the penalty. With greater caution in the matter of total calories and body weight, plus the help of two oatmeal days, she became suger-free February 18th, and has remained apparently well since that time.

The cases of G. G. and M. H. both illustrate the Allen treatment, but neither strictly according to rule. The case G. G. shows how the diabetic, if he is intelligent and conscientious, may be his own doctor. This patient has not been under personal observation since October, 1916. The appearance of sugar on November



Case M. H.—Age 3 years, 9 months.

2nd was repeated on December 29th and April 2nd. In both instances the same measures were taken as on November 2nd. With the exception of the "restricted days" this patient has been taking 90 grams of bread daily since October, 1916. He is working as a drug clerk.

The case M. H. shows the application of dietary measures to a young child. When the condition developed in March, 1917, he was 3 years and 9 months of age. The improvement in his condition parallels closely that shown by the photographs in the case of the other child reported, though he was never in so grave danger. The mothers of children and the wives of husbands are apt to be more zealous in behalf of the patient than the adult diabetic on his own account.

The following table presents the outstanding features of the four cases:

Case	Sex	Age at onset	Known duration	Familial diabetic history	Grade	General apparent condition
W.B.H.M.		35	Few wks.	----	Mild*	Working, carpenter
L. W.	F	7	Several weeks	Cousin	Severe	Well and happy.
G. G.	M	20	Few wks.	Cousin	Mild*	Empl'd as drug clk.
M. H.	M.	3¾ yr.	Few wks.	Aunt	Moderate	Well and happy

*I am strongly of the opinion it might be more accurate to say "an early case," in much the sense the term is used in tuberculosis.

A PLEA FOR THE ABOLITION OF SEPARATE SECTIONS OF MEDICINE AND SURGERY IN THE STATE SOCIETY.*

By H. C. SMITH, M. D., Crewe, Va.

To rightly decide this question we must first understand the broad principle that should and must govern us if we are to fulfill our duty in the highest sense. Our motto must be, "the greatest good for the greatest number."

The State Society has done a great deal of good and unquestionably has a great future, but when the Society was divided into Medical and Surgical sections, I am afraid it was done on the spur of the moment, attempting to follow our larger societies, without fully considering the needs of the majority of our members and their patients.

In recent years there has been a tendency to specialize on almost every disease, by a great many of our young men, and to know very little beyond their specialty, and just as the chiropractor, with his limited vision, sees every ailment emanating from a dislocated vertebra, the "hot house" specialist sees in his specialty the source of every ailment to which his patients fall heir. Such cases have, no doubt, come under the observation of us all, and clearly indicate, in many instances, the need of a broader education—an education to which this Society can be a valuable contributor.

No physician should specialize unless he has first "made good" in general practice. Then he would understand the relationship of his specialty to general medicine.

The specialist should have a good broad knowledge of general medicine and a technical knowledge of his specialty, while the general practitioner should have a good knowledge of general medicine and a general knowledge of surgery and the other specialties, and know who is doing the best work along the various special lines. More of this information can be gained, and in less time, by meeting together in a good medical society than in any other way.

It is almost useless to do good work and then refer your patients to an incompetent specialist, which is sometimes done. Yet how are we to judge unless there is at least one good society that brings us together.

Confidence is half the battle with a patient, and nothing gives him more confidence in our

*Read before the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917.

profession than for his family physician to state definitely that he can be cured, by whom, and just how the work will be done, the probable duration of treatment, or the time that must be lost by an operation.

If the family physician cannot give this information, the patient will be skeptical and often refuse the aid of the specialist, because the very vague information he gets leads him to believe that the treatment or operation he would undergo would be simply an experiment, and who is to blame?

A physician's education cannot be measured by the number of diplomas he may have in his office, but by his ability to observe things in his daily work, to understand the conditions under which his patients have to work and live, and his ability to keep in touch with his fellow physicians and their work.

This can only be done by becoming a close observer, a patient listener during our work, and by close associations with our fellow physicians.

As we ride trains and travel our streets, we often see conditions that are amenable to medicine and surgery, which lead us to believe that the relationship among ourselves and between our profession and the laity is not as intimate as it should be.

There should be at least one good society within reach of every physician, where the men of all branches of medicine and surgery can meet together, and, in Virginia, the State Society is the only one that can give such an opportunity. There would be a few physicians who would not attend under any circumstances, but by having such a society the responsibility for not attending would rest with the individual physician and not with the profession as a whole.

The city men may say that their Academies of Medicine and Surgery meet their needs and cover the entire field, but this is only partly true, as the conditions under which we work in the country are entirely different from those in the city, which makes it necessary for us to meet together even from their standpoint, and our County Societies, however helpful they may be, cannot give us the advantages our city brethren have.

Comments by several specialists at the Norfolk meeting last year, favoring a continued separation of the Society into Medical and Surgical sections, caused me to write this paper.

Unless we frequently see things we are prone to forget. These men were teachers in a large medical school, and realize the importance of practical work in their teaching, but, living in a large city with consultants in every branch of medicine and surgery at hand, they seemed to overlook the needs of the large number of country and village physicians who never have these advantages. These specialists also seemed to overlook the fact that a large part of their work is referred to them by the mass of us that make up the rank and file of this Society. We need their help; they need our referred work; and we would feel better satisfied about the patients we refer if we could meet these men at our State Society meetings every year and find out just what they are doing.

You may say that we can read the papers that are read in the section we cannot attend, but our brethren who have not become acclimated to the "bone-dry" drouth are hardly as dry as we find these papers when we attempt to read them, after doing a hard day's work, especially if we are not well acquainted with the writers and their work.

I trust you will carefully consider this matter, see what it really means to us; then, we believe, the specialists will heed the "Macedonian cry" of the general practitioners to "come over and help us." Join us in making this a Society that will cause us to look forward to the next meeting with pleasure from the day the preceding meeting closes. But, if they refuse, I suggest that we make such frequent visits to their offices and hospitals and ask questions until they become so tired of us they tell us to go home and stay until the next meeting of our State Society, when they will meet and demonstrate to us all they know.

We are apt to look upon a case of sickness as a trivial thing, and only of importance to the patient and the physician, but to show how far-reaching a case may be and how disappointing the results may be, even when there is co-operation, I will close with one case history, that I borrowed for my paper:

The Case of James Smythe.

Jim Smythe was sick. They took him home and filled his hide with drugs
To kill or maim or paralyze a system full of bugs;
Some said they were bacteria, some swore that they were germs,

While erudite physicians spoke of them in Latin terms.
They all agreed that, in the main, Jim Smythe was very sick,
And what they had to do to him they'd better do it quick!

Jim Smythe felt punk—just all run down—a nervous stroke they said,
Not quite enough to bury him, but he must go to bed;
The dear, kind neighbors telephoned—they wanted to make sure
Just what it was that ailed him, and the chance for a cure.
They put up every sort of stuff for Mister Smythe to take,
But not a thing they gave him even seemed to flag an ache.

Was J. Smythe ill? He surely was! I've said that much before.
He moaned and groaned and grunted, too; you should have heard him roar!
With every other breath he breathed he shuddered to the bone,
And every time he coughed a cough he also groaned a groan!
Ten florists sent their cards, and undertakers called to say
That prospects were that Tuesday next would be a pleasant day!

J. S. was sick; but he got well, in spite of all they did
To lay him in an overcoat and fasten down the lid;
He didn't see why he should die and leave his poor relations
To thank the Lord he didn't disappoint their expectations,
When he was just about to croak they loved him to the core,
But Jim's well—Oh! curses—they don't love him any more.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 404.)

Sodium Bicarbonate in Ether Anesthesia.

By GEORGE B. WOOD, M. D., Philadelphia.

Modern methods of investigation have shown that both ether and chloroform anesthesia, when prolonged for over thirty minutes, are accompanied by a distinct lowering of the alkali reserve of the blood. It is probable that this mild transient acidosis is a most important factor in the production of post-operative vomiting. It has been further shown that the alkali reserve of the blood can be increased by the administration of sodium bicarbonate, and it is, therefore, a most rational procedure to use this drug routinely as a preoperative prophylactic measure against excessive post-operative vomiting.

DISCUSSION.

Dr. Emil Mayer, New York City: I would like to ask Dr. Wood which dosage of bicarbonate of soda he finds essential in children prior to operation—that is, if one must start with a certain amount of dosage, what practical dosage he has found beneficial.

Dr. Robert C. Lynch, New Orleans: I had a sad accident occur to a member of my family which brought this subject pretty closely home, and since that time I have used bicarbonate of soda as a preliminary to all ether anesthesia. Lately we have changed from bicarbonate of soda to citrate of soda as being a little bit more agreeable to the patients. We begin three or four days ahead of the time—that is, preceding the anesthesia—and give doses of bicarbonate of soda or citrate of soda, five grains, and of the former one-quarter of a teaspoonful three times a day. In those cases where we are suspicious of an inclination of the patient to develop evidences of acidosis, we follow the anesthesia always with a Murphy drip, five per cent., glucose solution, one-half pint. This gives our patients very much more comfort and freedom from vomiting. I think the thing is extremely important. It was suggested about three years ago to Dr. Peck, who adopted it. We find that during the intense heat we see many more cases of acidosis occurring than we do in the winter; and always during the spring and throughout the summer months, when we submit a case for general anesthesia, we never omit the preliminary soda treatment and the postoperative five per cent. glucose.

We find, also, that the administration of codein and morphin after operation will increase the quantity of acetone in the urine, and predispose to the cyclic vomiting.

Dr. George B. Wood, Philadelphia (closing the discussion): In answer to Dr. Mayer's question, the dosage should be approximately one and one-half grains of sodium bicarbonate to each year of the child. It should be started the day before the operation, given preferably one-half hour before meals, the last dose being given one or two hours before the operation.

I have not been in the habit of using sodium bicarbonate after the operation unless there is evidence of acidosis, as manifested by constant vomiting or other symptoms, when it should be given by the "Murphy drip."

One other preoperative measure which I think should always be attended to is the proper feeding before the operation. The restriction of food should only be sufficient to assure an empty stomach when the ether is given. The most severe case of acidosis following anesthesia which I have seen was one in which the family physician had, without my knowledge, practically starved the child for twenty-four hours previous to the administration of the ether.

Book Announcements and Reviews

The Semi-Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

The Physician's Visiting List for 1918. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Sold by all booksellers and druggists. Prices from $1.25 to $2.50, according to size and style. Pencil in book. Post free.

This book, now in its sixty-seventh year of publication, contains 1918-1919 calendar, table for calculating period of utero-gestation, American table of mortality, comparison of thermometers, table of signs, notes on treatment of asphyxia and apnoea, and a table of doses for drugs which will prove quite useful. Following the usual blank pages for names of patients and their records, are tables on the immediate treatment of poisoning, metric or French decimal system of weights and measures, and the table for converting apothecaries' weights and measures into grams.

Physical Chemistry of Vital Phenomena. By J. F. McCLENDON. Published by Princeton University Press, Princeton, N. J. Price, $2 net.

A living cell is composed of a large number of chemical substances either in solution or in the form of gels or solids. The knowledge of what is commonly called Chemistry is not at all sufficient for biological problems and decomposition products of cells in their exchange relations with the surroundings.

A modern biochemist is concerned not only with regard to the reactions between the organic and inorganic compounds, but also with physico-chemical processes such as the rate of re-action and position of equilibrium, as presented in the law of mass action, with the effects of ions, osmotic pressure, tension, diffusion, absorption, electrical polarization, phenomena, with colloids, with the effect of salts on colloids, with the enzymes, finally with cell structure having an influence on certain reactions.

These are the subjects treated by the author in a very interesting manner.

Special emphasis is laid in the book on Electrolytes, Colloids, Suspensoids, Emulsoids and Enzymes. Bioelectric phenomena are particularly well described. The book is concluded by a chapter on cell division in all its aspects, and on Muscular Contraction in relation to heat and light production. The work is well arranged and denotes the author's scholarly attainments. It is highly recommended to anyone interested in physiological phenomena.

ALFRED GORDON, M. D.

The Psychology of Special Abilities and Disabilities. By AUGUSTA F. BROUNER, Ph. D. Published by Little, Brown & Company. Boston. 1917. Price, $1.75.

In educational endeavors the modern tendencies are manifest in the recognition of the individual, but not of the masses. Whether we deal with individuals or normal intelligence or with mental defects, individual differences in mental capacities must be taken into consideration. In her capacity as Assistant Director of the Juvenile Psychopathic Institute in Chicago, the writer had a very vast opportunity to observe and study the individual variations in abilities and disabilities. She collected the material and analyzed it carefully. She offers now in a logical manner methods of attacking problem-cases. The work is arranged in nine chapters. After discussing the differential diagnosis and the present educational tendencies, the writer takes up in detail and lays special emphasis on Defects in Number Work, in Language Ability, in Separate Mental Processes, in Mental Control and General Mental Subnormality and concludes with an exceedingly useful chapter on various psychological tests in forty-six cases.

The work is to be commended for its painstaking and careful elaboration of the problem in question.

ALFRED GORDON, M. D.

Editorial.

Neuralgia and Neuritis.

A painful affection of a nerve may be due to a direct injury or to an inflammation caused

by pressure, tumor, toxic condition, otherwise speaking to a *neuritis*. It may also be present in a condition in which none of these causative factors are present; we then speak of *neuralgia*. While the first term gives a clear idea of the morbid process, the latter implies only a subjective symptom. In both conditions the element, pain, is present and it is very difficult to make a practical distinction of the two forms of nerve pain. On the other hand, in a number of cases described as neuralgia, the pain was found to be the result of neuritis.

A sharp distinction between neuralgia and neuritis cannot be established. Even in recent cases of ordinary neuralgia there are great presumptions in favor of a material basis. Microscopical examinations of excised peripheral nerves and Gasserian ganglia have shown that in a number of cases degenerative changes were present; more or less intense alterations of a chronic inflammatory character have been found in the ganglia as well as in the peripheral branches. Sifting all the clinical and anatomical data accumulated in the literature, one reaches the following conclusions:

First. In neuralgia of long standing the Gasserian ganglia is affected.

Second. Neuralgia of long standing does not necessarily mean marked degenerative changes in the affected nerve.

Third. Degenerative changes may be found in nerves where the neuralgia is of comparatively recent date, viz:, weeks.

Fourth. The state of blood vessels should be taken into consideration in cases of neuralgia. Nerve degeneration has been found in the vicinity of altered blood vessel walls.

Fifth. The occurrence of degeneration of peripheral nerves is frequent, if not constant, in neuralgia.

Sixth. It is difficult, if not impossible, to draw a sharp distinction between neuritis and neuralgia, as accumulated data show an anatomical basis in the latter affection.

Seventh. It should be borne in mind that in a great many instances of neuralgia the Gasserian ganglia was found involved, but secondarily to the changes in the peripheral nerve. This was proven also experimentally by Kowalevsky (*Monatschrift fur Psychiatrie und Neurologie*, *v. ii*, p. 147, abstract) and A. Gordon (*Journal of Nervous and Mental Diseases*, February, 1914). The former, after cutting a sciatic nerve in an animal and injecting a few drops of 5 per cent. chromic acid solution into the central end, found changes in the cells of spinal ganglia at the end of four days.

Alfred Gordon, M. D.

Trade Commission Acts on Salvarsan Patent.

The Federal Trade Commission, November 27, entered orders for licenses to three firms to manufacture and sell the product heretofore known under the trade names of "Salvarsan," "606," "Arsenobenzol," "Arsaminol," patent rights which have been held by German subjects. The orders for licenses are subject to acceptance and agreement by the licensees to the stipulations made by the Commission. Upon such acceptance and agreement, licenses Nos. 1, 2 and 3, will be formally granted by Secretary L. L. Bracken, acting for the Commission.

Hereafter, this important drug will be manufactured and sold under the name of "Arsphenamine."

The Trade Commission's action was taken under Section 10 of the Trading With the Enemy Act, under direction of Commissioner Fort, upon recommendation of C. H. McDonald, Edward S. Rogers, and Francis Phelps, in charge of granting such licenses. The Public Health Service has prepared rules and standards for the manufacture and testing of "Arsphenamine" and will supervise its manufacture, authority having been conferred on the Public Health Service by the Secretary of the Treasury, and the observance of the rules and standards become a condition of the license.

The three firms which will be hereby permitted to manufacture and sell "Arsphenamine" are Dermatological Research Laboratories, of Philadelphia; Takamine Laboratory, Inc., of New York, and Farbwerke Hoechst Company (Herman A. Metz Laboratory), of New York. The original patent for manufacture of what has heretofore been known as "Salvarsan," etc., was issued to Paul Ehrlich and Alfred Bertheim, German subjects and assigned to Farbwerke Vormals Meister, Lucius and Bruning of Hoechst on the Main, Germany. The supply of the drug now licensed to be made in America, up to 1915, was almost exclusively obtained by importation from Ger-

many. It is at present the only known specific for virulent blood poison. From the outbreak of the war importation became more difficult.

Before the war began, the patented drug was sold at $4 per dose, which is approximately $3,500 per pound, and speculatively it has brought as high as $35 per dose. While the price of the product is not fixed at this time by the Commission, the right to fix prices is retained, and a price of $1 per dose to the Army and Navy, $1.25 per dose for hospitals, and $1.50 per dose for physicians, are the prices at which some, at least, of the licensees have stated that they intend to offer the licensed drug. The enormous shortage of supply on this important product will immediately be relieved, and the article placed in the hands of the Government, the hospitals and the medical profession at a price lower than ever before.

Doctors With Base Hospital No. 41.

As there have been some additions to the medical and surgical staff of Base Hospital No. 41, at the University of Virginia, we again append a full list of the doctors in this unit: Maj. Wm. H. Goodwin, University, director; Maj. Lomax Gwathmey, Norfolk, Va.; Maj. Charles S. Venable, San Antonio, Texas; Captains John W. Burke and John D. Thomas, Washington, D. C.; Captains C. A. Woodard, Durham, N. C.; E. Howe Miller, Danville, Va.; Herbert Old, Philadelphia, Pa.; John W. Carroll, Lynchburg, Va.; John B. Setzler, Newberry, S. C.; First Lieutenants Claude C. Caylor, Washington, D. C.; Joseph S. Hume and H. J. Hayes, Norfolk, Va.; Minor C. Lile, New York City; Kyle B. Steele, Joseph L. Wright. LeRoy W. Hyde. Lucius G. Gage and Edward W. Broocks, University, Va., Dan H. Witt, Charlottesville, Va.; Herbert F. Jackson, Selma, Ala., and Homan Laurence Dowd, Norwalk, Conn.

Doctors Have Done Great Work in War.

According to Dr. Woods Hutchinson, "The doctor has made this world struggle probably one of the least deadly ever fought, in proportion to the numbers engaged." Owing to the control over wound infection, he stated that of the wounded who survive six hours, 90 per cent. recover; of those who reach the field hospitals, 95 per cent. recover, and of those who arrive at base hospitals, 95 per cent. get well. The anesthetics and antiseptics have not only enormously diminished pain, but have made amputations rarer and grave cripples fewer. Barely five per cent. are crippled or permanently disabled.

The Southside Virginia Medical Association,

Which was to have met in Petersburg, December 4, changed its date for meeting to December 11, owing to conflict with the dates of the Seaboard Medical Society, which convened in Norfolk, Va., the first Tuesday in December.

Dr. J. C. Cutler,

Who has spent the past four years at Norge, Va., has moved to Newport News, Va., where he will take up the practice of his profession.

American Red Cross Ships Large Quantity of Supplies.

Ocean carriers, plying between American and European ports, transported in a period of little over three months approximately 33,000 tons of war relief material, shipped by the American Red Cross through its National Clearing House. More hospital supplies, anæsthetics, surgical dressings and foodstuffs are being sent than at any other time since America's entrance in the war.

The widening scope of Red Cross work in Europe and the fact that cold weather is bringing with it pressing needs were responsible for the increased shipments. The Red Cross is supplying not only war hospitals, but also infirmaries, recuperating stations, canteens, dispensaries, homes for nurses and the many other things which it established in France to help save American lives and the lives of Allied soldiers and civilian sufferers as well.

A statement covering shipments from October 1 until the latest reported arrival of a Red Cross cargo abroad, contains a list of commodities valued at $1,736,216. The valuation of Red Cross shipments is based for the most part upon the cost to the Red Cross which is buying at a figue just above the cost of manufacture. In one of the shipments was a consignment of 559 soccer footballs and 250 rugby footballs for American soldiers in France. They were purchased with funds raised by Harvard graduates.

Dr. Robert C. Bryan,

Of this city, who has been serving with the American Red Cross mission to Roumania, had arrived in Vancouver on his return trip, the first of this month, and was expected in Richmond about the 6th.

Dr. W. Herbert Lewis,

Of Lawrenceville, Va., has been quite sick at St. Luke's Hospital, Richmond.

Dr. and Mrs. Wm. Lee Cosby,

Of Painter, Va., have been recent guests of relatives at Oyster, Va.

Measles and Pneumonia at Camp Wheeler.

Surgeon General Corgas, U. S. A., on his inspection trip to Camp Wheeler, Macon, Ga., found a sharp epidemic of measles—some 3,000 cases—and as often occurs with measles, a number of cases of pneumonia. At that time, there were about 300 cases of pneumonia in the hospital. There were 60 deaths from this disease in a month. There are over 22,600 men in this camp. It was recommended that each man in the camp have at least 50 feet of floor space; that no fresh men be brought into camp until the epidemic has subsided; that an observation camp be established; and that all new men be kept under observation until the main camp is free from infection.

Dr. Stephen Jas. Hawes,

Dover, N. C., who graduated from the University College of Medicine, Richmond, several years ago, has enlisted in the U. S. Army Medical Corps and expects to leave for France shortly.

Appointed Captains in M. R. C.

Among the appointments to captaincy in the Medical Reserve Corps, effective from November 2, 1917, we note the names of three doctors well known in this section: Dr. Harry Hyland Kerr, Washington, D. C.; Dr. Philander C. Riley, Markham, Va., and Dr. Eric A. Abernethy, Chapel Hill, N. C.

Dr. Reid White,

Lexington, Va., has been detailed by the Surgeon-General at Washington, as medical adviser to the Governor of this State, to confer with reference to the creation and location of medical examining boards in Virginia to be utilized in the second draft. It is understood that the new medical boards will contain experts and specialists along many lines.

Three Hospitals Destroyed by Fire.

The main building and two cottages of the Otterburn Springs Sanatorium, near Amelia, Va., were destroyed by fire November 23rd, entailing a loss of a little more than $30,000, three-fourths of which was covered by insurance. None of the patients suffered injury. The Sanatorium which was formerly the Otterburn Springs Hotel, had only been in operation for about five months.

The Trenton, N. J., Municipal Hospital was burned November 6, with a loss of about $40,000. All patients escaped or were carried to places of safety by the nurses.

The Hotel Dieu, of St. Hyacinthe, Quebec, was destroyed by fire November 28. All of the 1,000 inmates, which included many old persons and children, as well as the sick, were removed to safety, although the chief of police lost his life while helping others to escape. The hospital consisted of three stone buildings, erected at a cost of $600,000.

Doctors Participate in War Work of Y. M. C. A.

In addition to Drs. H. S. Hedges, Charlottesville, and A. R. Gray, Palmyra, representing the Charlottesville District, whom we named in our last issue, the following doctors are among those appointed in this State to aid in the Virginia War Work Council of the Y. M. C. A.: Drs. J. C. Wysor, Clifton Forge; A. M. Burfoot. Fentress; R. D. Tucker, Powhatan; R. O. Lyell, Warsaw, and B. B. Bagby, West Point.

The Medical Society of Northern Virginia and the District of Columbia

Held its semi-annual meeting in Washington, D. C., November 21, under the presidency of Dr. Wm. I. Robey, Herndon, Va. Several interesting papers were read and informal case reports were given by some of the members. While the attendance was somewhat smaller than usual, owing to the war, the meeting was most interesting and an excellent dinner was enjoyed by those in attendance.

"Dr. Blake's Hospital" to Have Red Cross Aid.

The hospital known in Paris as "Dr. Blake's Hospital" is to have the financial support of the American Red Cross according to an agreement recently made. Since the outbreak of the European War, Dr. Blake, a prominent American surgeon, has been engaged in hospital work, and he has worked unceasingly since the first wounded were brought into Paris. In a short time after he and his staff began operating, the hospital became famous for the surgical results achieved.

Under the new arrangement, the institution is to be used primarily for the care of Americans, although 100 beds are to be retained for the use of French soldiers, as long as they are not needed by Americans. It will be open also to sick and wounded Red Cross personnel. The hospital is to be known hereafter as the American Red Cross Military Hospital No. 2.

Commissions for Virginia Doctors.

Announcement was made November 20, of the following commissions for Virginia doctors in the Medical Officers' Reserve Corps: Major for Drs. W. H. Goodwin, University; J. W. Hope, Petersburg, and Edgar C. Jones, Newport News; Captain for Drs. J. A. Barker, Hampton; E. Guy Hopkins, Richmond; and First Lieutenants for Drs. Paul V. Anderson, Richmond; W. C. Caudill, Pearisburg; R. L. Wyatt, City Point; I. Roy Wagner, Stuarts Draft; C. C. Carr, Toms Creek; G. W. Gill, Richmond; John P. Irby, Blackstone; Joseph C. Johnston, Drakes Branch; D. H. Scribner, Charlottesville; L. S. Hoover, Richmond; John J. W. Ross, Onancock; Thomas B. Allen, Richmond, and W. W. Baldwin, Waverly.

Dr. Evander M. Sanders,

Nashville, Tenn., has been elected president of the Tennessee State Board of Health.

Dr. V. O. Caruthers,

Ferrell, Va., has been appointed director for King George County, Va., in charge of the war savings stamps and certificates campaign.

Ambulance Company Receives Gift From Red Cross.

Ambulance Company 319, commanded by Capt. C. Howard Lewis, of this city, and now stationed at Camp Lee, Va., visited Richmond November 28, and were presented by the Richmond Chapter of the Red Cross, with an equipment comprised of twelve U. S. standard ambulances, three two-ton trucks, and three motorcycles. In addition, each one of the 116 men, most of whom formerly made their homes in this city, was presented with a sweater knitted under the supervision of the knitting department of the local chapter.

Dr. and Mrs. W. W. Silvester

Have returned to their home in Norfolk, Va., after a visit to Blackstone, Va. While there, they narrowly escaped being killed in an automobile accident, in which Mrs. Silvester suffered a fracture of the collarbone.

Married—

Dr. Alexander Emmett Turman and Mrs. Ruby Thomas Storrs, both of Richmond, December 5.

Lieutenant Guy Blair Denit, U. S. Medical Corps, stationed at Anniston, Ala., but formerly of Radford, Va., and Miss Virginia Campbell Buchanan, of Marion, Va., December 11.

Dr. Herbert Rogers Etheridge and Miss Courtenay Clarkson Arps, both of Norfolk, Va., November 21. Dr. Etheridge, who is a graduate of the Medical Department, University of Virginia, has since served as interne at the New York Post-Graduate Medical School Hospital.

Dr. C. A. Davis,

Eagle Rock, Va., had the misfortune to lose his home in a fire that visited that place, November 23.

The American Academy of Ophthalmology & Oto-Laryngology,

At its recent meeting in Pittsburgh, elected Dr. Allen Greenwood, Boston, but now major in the Medical Reserve Corps, U. S. A., president; Dr. Virginius Dabney, Washington, D. C., first vice-president, and re-elected Dr. Lee M. Francis, Buffalo, secretary.

The International Health Board,

A subsidiary of the Rockefeller Foundation, in its annual report, stated that its work for 1916 continued to be directed chiefly toward the relief and control of hookworm disease. This work was done in Kentucky, Louisiana, Mississippi, North and South Caro-

lina, Tennessee, Texas and Virginia, and in fifteen foreign countries located between degrees of latitude 36 north and 30 south in the tropical and sub-tropical belt, which is the native habitat of the hookworm. New fields of operation in 1916 were Salvador, Brazil, Ceylon and Siam. Four experiments in malaria control were also carried out during 1916 at different points in the lower Mississippi River Valley. In each a different line of investigation was pursued, the object being to discover a practical method of control which the average rural community could afford. Three of these were finished during the year and gratifying results were obtained.

Doctors on Virginia Fuel Boards.

The following doctors were among those appointed from various counties in the State as members of the county boards to look after the control of the fuel situation in Virginia: Drs. D. C. Mayes, Church Road; R. R. Hoskins, Mathews; Jas. W. D. Haynes, Cobbs Creek; W. F. Driver, New Market, and W. C. Ford, Woodstock.

Dr. C. J. Andrews,

Norfolk, Va., was a visitor in Franklin, Va., the middle of November.

Seaboard Medical Association.

As we go to press, the Seaboard Medical Association of Virginia and North Carolina is holding its twenty-second annual meeting in Norfolk, Va., under the presidency of Dr. Kirkland Ruffin, of that city. Dr. Clarence Porter Jones, of Newport News, Va., is secretary.

Red Cross Flourishing on Va. Eastern Shore.

With a membership of about 1,500, the Red Cross work on the Eastern Shore of Virginia continues to grow. The latter part of November there were eighteen branches of the Eastern Shore Chapter and two more branches were planning to organize. In Onancock, a house-to-house canvass was made and there are few homes there not represented by at least one membership.

Dr. and Mrs. Robert T. Ferguson

And their two sons, of Gaffney, S. C., spent the Thanksgiving holidays with relatives in this city. Dr. Ferguson is an alumnus of the Medical College of Vriginia and formerly practised here.

The American Review of Tuberculosis,

Within the nine months of its publication, has made for itself a unique place in medical circles as it appeals not only to those specializing in this disease, but also to many who are working in related fields. Few specialized journals have received a more cordial welcome than has this one, as is evidenced by the growth of its subscription list to this time. Its editorial staff is headed by Dr. Edward R. Baldwin, of Saranac Lake, N. Y., a well known authority on tuberculosis, and includes seven other tuberculosis specialists of national and international prominence. We take pleasure in commending the *Review* to our readers. Its business office is at 105 East 22nd street, New York City.

Dr. Grover C. Robertson

Has been elected superintendent of the Spencer (W. Va.) State Hospital, to succeed Dr. Charles A. Barlow, resigned.

Dr. Wilbur A. McPhaul,

Lumberton, N. C., has been appointed health officer of Robeson County, N. C.

The Kentucky State Medical Association,

At its annual meeting in November, elected the following officers: President, Dr. James S. Lock, Barbourville; vice-presidents, Drs. Jos. L. Barker, Pembroke; H. H. Stallard, Pikeville, and Jas. C. Douglass, Franklin; secretary, Dr. Arthur T. McCormack, Bowling Green.

On Local Committee for Chicago Meeting.

Drs. Ludvig Hektoen and Charles J. Whalen have been appointed chairman and secretary, respectively, of the local Committee on Arrangements for the Chicago session of the American Medical Association, scheduled for June 10-14, 1918.

Loyola University of Chicago.

Bennett Medical College and the Chicago College of Medicine and Surgery are now combined to form the medical department of Loyola University. Dr. Lawrence Ryan is dean

of the new faculty, Dr. Alfred de Roulet junior dean, and Dr. G. E. Wyneken secretary. The institution comprises five buildings. Work will be conducted on the highest plane possible to meet requirements of all states. Medical students will be required to have one year of college work before entering.

Principal Causes of Death.

According to figures issued by the Bureau of the Census, predicated on approximately 70 per cent. of the population of the entire United States—the registration area—there were 1,001,921 deaths in 1916. Of these, nearly one-third were due to three causes, heart diseases, tuberculosis and pneumonia, and nearly another third were charged to the following nine causes: Bright's disease and nephritis, cancer, apoplexy, diarrhœa and enteritis, influenza, arterial diseases, diabetes, diphtheria and typhoid fever. Measles had the highest mortality of the three principal epidemic maladies of childhood. There were 60,071 deaths from accidents—an increase of 7.6 per 100,000 over 1915. The number of suicides for 1916 was 10,162, or 14.2 per 100,000, which is the lowest rate for suicides for the past ten years.

Graduate Nurses Wanted for Army Camps.

The Surgeon-General of the Army announces that 500 graduate nurses are needed immediately for work with the Army Nurse Corps. The work is particularly difficult and exacting and the opportunity for patriotic service correspondingly great. A thousand-bed base hospital has been established with each National Guard and National Army cantonment. Each will require at least 65 graduate nurses in its personnel. Those whose services are immediately available are desired. The pay is $50 per month and maintenance.

Applications should be made directly to the Superintendent, Army Nurse Corps, Mills Building, Washington, D. C. Blanks and circulars of information will be sent those applying to this address.

Army Medical School Prepares Vaccines.

The laboratory of the Army Medical School, Washington, D. C., one of the branches of work under the Surgeon General, has shipped since April 1, sufficient typhoid and parathyphoid vaccine to inoculate every man in the army against these diseases. In addition it has made made all these vaccines used by the Navy since that date. Throughout the process of making, the vaccine is guarded against contamination. It is then stored in sealed vessels in locked refrigerators, to which only the two officers in charge have keys; and none of these vessels is ever moved except in company of one of these two officers. Every care is taken in the making of the vaccines, and, in more than six months of large scale production, not a trace has been found of any contamination.

Pneumonia to be Placarded.

Beginning December 1, the Department of Health of Chicago, requires that all cases of pneumonia shall be reported to the Department and all reported cases will be placarded as in other contagious diseases.

Free Cancer Diagnosis Service in Massachusetts.

Through the generous offer of the Cancer Commission of Harvard University, a free diagnosis service was established in Massachusetts October 1, 1917. The service offers to the registered physicians of the State opportunity for the free diagnosis of pathological material removed at operation. Restrictions upon the employment of the exploratory incision in cancer tissue have been announced in connection with the service.

Obituary Record

A. A. Surg. Ward Boleyn MacCaffry, U. S. P. H. S.,

Recently stationed at Fortress Monroe, Va., and for some time in charge of the Cape Charles Quarantine Station, died in Philadelphia, November 4, from a general nervous breakdown. He was forty-two years of age and studied medicine at the Medico-Chirurgical College of Philadelphia, from which he graduated in 1906.

Mr. James H. Chambers.

We announce with regret the death, on November 6, 1917, of Mr. Chambers, the founder and for more than thirty-five years the president of the Dios Chemical Company, St. Louis, Mo.

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DIAGNOSIS OF DISEASE IN CHILDREN.*

By L. T. ROYSTER, M. D., Norfolk, Va.

True success in medicine depends largely upon the application of one word—diagnosis. A physician may, through his personality and business acumen, build up a large and profitable practice; he may even succeed in laying by a reasonable amount of money to help him in old age or in the event of physical disability. As the world counts success this man has succeeded, but he may have failed signally in the great undertaking if viewed in the light of cold blooded, unemotional science. From this standpoint alone should we gauge success, which in the ultimate analysis means the number of diagnoses which have actually been made.

Diagnosis of pathological conditions is a difficult science, and the methods which are employed in determining and handling them do not differ materially whether applied to children or adults. Generally speaking, disease attacks the young and old alike, but the manifestations of the same disease differ widely when seen in the young from those as seen in the adult. Therefore, we observe when dealing with children it is the patient and his manner of reaction to disease process which differs rather than the disease itself. On this point hinges the importance of the subject of my paper.

We physicians are so accustomed to thinking of symptomatology as seen in the adult that we are apt to lose sight of the variability of response to disease on the part of the tender young tissues of children. It is my purpose to point out a few of the commoner differences which most frequently cause errors in diagnosis. Experience is essential to the acquiring of that judgment without which no man can hope to aid his patient, and yet, in the words of Hippocrates, "experience is fallacious and judgment difficult." It is therefore necessary to weigh the clinical picture as a whole and check this with laboratory findings, and not rely wholly on either alone.

No attempt should ever be made to diagnose obscure conditions without a complete family history; the past history of the patient from birth to the present illness; a history of the present illness as told by the mother, augmented by tactful and well directed questions, and, lastly, a thorough and systematic examination of every part of the child's anatomy. To do this properly the child must be stripped.

I have emphasized a "systematic examination." By this, I mean to make use of all the methods of examination, such as inspection, palpation, percussion and auscultation. In order to be methodical, it is well to commence at the crown of the head and go step by step over the patient to the sole of the feet. We should first observe the state of nutrition and development of our patient, as well as the facial expression (mentality, mouth breathing, etc.) Then determine whether the fontanels are closed or unusually wide open; whether the anterior fontanel is bulging or depressed (cerebral irritation or marked physical depression); whether the hair is soft and silky or straight and course (cretinism). The condition of the mucous membrane of the mouth and throat should be noted and at the same examination the tonsils and teeth. The presence of adenoids in many instances can only be discovered by the finger inserted in the posterior nares. The examination of the chest should include the lungs and heart; the latter should disclose the presence or absence of murmurs and their location, and the size of the heart as shown by both relative and absolute

*Read before the twenty-second annual meeting of the Seaboard Medical Association of Virginia and North Carolina, at Norfolk, Va., December 4-6, 1917.

cardiac dullness, bearing in mind the difference between the adult and infantile land marks. The examination of the abdomen should have for its object to determine whether the surface is level with the chest, depressed or distended, to what extent the liver and spleen are enlarged, if at all, or the presence of masses (glands or tumors), or palpable kidney. The extremities often contain sores or eruptions, while through a test of the reflexes we are guided in discovering some lesion or irritation of the nervous system.

Our efforts at making a diagnosis are assisted by laboratory methods. Thus, a systematic examination of the urine must be a part of our general routine, while a blood examination not only aids us in almost all cases, but becomes an absolute necessity when the diagnosis is not already apparent. Whenever there is the slightest evidence of cerebral irritation a lumbar puncture should be performed. This is advisable for one reason if for no other. It differentiates between cerebral irritation and true meningitis, and since in the latter we so often meet with irregular types which no one can diagnose through other means, it becomes obligatory to discover at least whether our patient has a case of cerebro-spinal meningitis, the only type for which we can do anything. And, lastly, the stools should be examined whenever there is a suspicion of parasites, or even if there are obscure abdominal sensations or anemia.

By briefly describing a few of the more common ailments which are frequently wrongly diagnosed, I can best illustrate the importance of careful examination.

Typhoid Fever. It is quite remarkable how often mistakes are made in not diagnosing typhoid fever in young children, when it is comparatively easy in adults. The reasons are not difficult, however. We are more apt to look upon this disease as one confined to adult and young adult life, although it is quite common in children. Then, too, it is rarely the four-week fever in children, being oftener nearer two weeks in duration (average three weeks). Thus, by the time diagnosis is made the child is frequently convalescent. The Widal reaction shows too late to be of great value in early diagnosis, though it is apt to be present somewhat earlier than in adults. In my experience an enlarged spleen is the exception rather than the rule, while rose spots are oftener absent than present. By making a leucocyte count early, however, we have a reasonable aid in diagnosis, since there is a uniform leucopenia which rules out everything except measles, malaria and pernicious anemia. In all other diseases the leucocyte count is either normal or increased.

Pneumonia. This trouble is frequently overlooked. This disease may be present and the child not appear to be very sick. In the early stages diminished breathing is the rule rather than the characteristic bronchial breathing. Then in infants and in young children the normal "puerile" breathing may be mistaken for bronchial breathing. When in doubt as to the character of breath sounds the placing of the stethoscope over the left bronchus behind, will at once give us the comparison needed. The normal ratio of pulse to respiration is 4 to 1. When this varies so as to be 3, 2½ or 2 to 1, we may have a severe general bronchitis, but most likely a pneumonia is present.

Empyema. This is the most common complication of pneumonia and is important because of its marked fatality. It may come on at any stage of the disease, which reminds us that daily and even more frequent examinations of the chest are necessary. This is usually what is not done, for fear of disturbing the patient, and also because of the frequent custom of placing pads or poultices of various kinds over the chest, which are not easily removed. These are entirely unnecessary, and prevent our doing our duty by the patient. Children are disturbed very little by an examination of the chest; therefore, fear of disturbing them should be put aside in favor of the possibility of detecting an empyema.

Otitis. Few conditions are the cause of obscure temperatures so frequently as infections of the middle ear, which are often observed not only as a sequel of infectious diseases but also after the slightest coryza. It is a mistaken idea that otitis always causes pain or that pulling at the ear is a frequent symptom. The only safe rule is to examine the ear drums as a part of every routine examination.

Pyelitis. This is in all probability the most frequent cause of obscure fever in the whole list of affections of childhood. There is perhaps a reasonable excuse for this having been overlooked in the past, because comparatively little was known about it, but now that exten-

sive studies have been made and the condition is well understood, it should never be allowed to pass undetected. As a rule, a single microscopical examination will suffice, but occasionally we run across a case where repeated examinations are necessary before pus is discovered. This condition is an important one, for although many cases eventually get well without having been detected, yet disastrous results may follow its neglect. I think it very likely that pyelitis has been mistaken and treated for malaria with great frequency. The temperatures may be very similar. Pyelitis is a frequent complication and sequel of a number of diseases, notably pneumonia, influenza, typhoid and dysentery.

Malaria. There is a common custom prevailing in this section of the country of giving quinine for every febrile condition. This is rather natural on account of the prevalence of malaria. However, it is at once unscientific and dangerous. It is quite true that malaria seldom manifests itself in early childhood by distinct chills and fever, the temperature being of the more or less irregular type, but without a blood examination we are apt to administer this drug in many conditions in which it does no good, but tends on the other hand to still further obscure the condition. Unless there is a distinct chill or a noticeable periodicity its administration is unjustifiable. We are frequently in a dilemma in finding plasmodia in the blood. It is well to remember that they are present at one time during the day and not at another, and that one negative examination does not exclude malaria. I remember one patient from whom a specimen of blood was obtained every hour for sixteen consecutive hours before the organism was found, but our presistence was rewarded, and served to clear up a quite obscure condition. I think it is far safer to refrain from the administration of quinine until we are reasonably sure, by thorough examination, of the elimination of every other possible cause of fever (remember pyelitis). In the blood examination if there is a leucocytosis we may be reasonably sure that no malaria is present.

Meningitis. Meningeal irritation may be present after almost any toxic infectious condition. It must be emphasized, however, that this is by no means an inflammation of the membrane, but merely a manifestation of toxic irritation. These cases get well. This one fact alone distinguishes the condition from true meningitis which, so far as we know, with the exception of cerebrospinal (treated early), and a few exceptional cases, never gets well. Meningitis may complicate any septic precess. The form of meningitis most frequently overlooked is the tubercular. The reason for this is that it bears slight resemblance to the other forms, except in the last stages. I have seen the tubercular form mistaken for almost every condition known to medicine. The onset of the tubercular form is insidious, usually, but not always, with vomiting. Opisthotonos is frequently not present during the whole attack and the various reflex signs may be present constantly, or absent constantly, or absent and present at different intervals. There is but one safe rule in making a diagnosis of any form of meningitis,—that is lumbar puncture, which should never be neglected if for no other reason, as already emphasized, than the fact that we may occasionally detect the epidemic form, which form alone can be cured by appropriate treatment.

Tuberculosis. Contrary to our early conception of this condition, tuberculosis is essentially a disease of the young. Scientists are learning today to the belief that the greater portion of tuberculosis is acquired in infancy and early childhood, and that it remains dormant for many years only to make its reappearance later in life. Tuberculosis of the lung is very much more common in childhood than is usually supposed. I see a rather large number of tubercular infections in children under ten years of age, and there is no doubt that many slight infections pass unnoticed. The Von Pirquet reaction is noticeably trustworthy in the young. Any child of tender years which shows a positive reaction may be considered to have an active infection. Bone infections are far more common in early life than in adult life, and upon their early recognition depends the future usefulness of the patient, while an apparently increasing number of cases of tubercular meningitis seems to warn us that it is only the terminal and fatal manifestation of an unrecognized lesion elsewhere in the body.

Tonsillitis. As has already been stated, no examination of a child is complete without inspection of the throat, and yet in all probability the number of undiscovered cases of tonsillitis and diphtheria is beyond estimate. Not

only is a discovery of tonsillitis important *per se*, but because of the number and severity of its complications, notably rheumatism, endocarditis and chorea. In an unusually large number of cases of rheumatism and endocarditis which I have seen, there is not a single case in which I have failed to find a history of at least one attack of tonsillitis.

Rheumatism and Endocarditis. These two conditions are so closely interrelated that they may well be considered the twin offspring of the parent I have just described. Upon the early recognition of each of these conditions depends again the future usefulness of the individual. Let us not fool ourselves or the parents of our patients by attributing vague pains in the joints or muscles to the mythological condition known as "growing pains," for we recognize a vast majority of these as rheumatic manifestations, or at least allied conditions suggestive of a septic nidus somewhere in the body.

Scorbutus. This may logically be considered at this point, for it is perhaps most frequently mistaken for rheumatism, and the diagnosis is often apparently, though never actually, difficult. As a rule, examination of the gums will serve to differentiate the conditions, and a few days' administration of orange juice will almost always clear up scurvy. It is also mistaken for various paralyses. It is well to bear in mind the occasional incidence of primary leukemia, which not only may present the joint manifestations but the gum irritation as well.

Croup. Two forms of croup are recognized today, the spasmodic and the membranous. Spasmodic croup usually comes on at night suddenly, with high pitched metallic cough, and disappears at daylight. It commonly runs three nights, diminishing in severity each night. It is caused by cold, as in sudden chilling and by indigestion. It is rarely serious. The membranous form is always diphtheritic. It comes on gradually, increases steadily, and does not clear up with daylight. A culture is rarely positive when the seat of the trouble is primarily in the larynx. These general rules however, have occasional notable exceptions.

Osteomyelitis. This is often mistaken for rheumatism. Its frequent seat near a joint may lead to a mistaken diagnosis. Its early recognition is important, since the treatment is prompt surgical intervention.

Teething. This being a physiological process it should give no serious manifestation, theoretically at least, and I doubt if serious trouble does occur. Unquestionably teething may cause fretfulness, irritability and possibly a slight diarrhœa (nervous) or cough, because of the unbalanced nervous system of infancy. But we must never attribute symptoms to this cause until every other condition has been positively eliminated.

Primary Anemias. These are comparatively rare in childhood. Secondary anemias frequently furnish us a picture which so closely resembles the primary forms that mistakes in diagnosis are apt to occur. This is due to the more or less embryonic state of the blood.

Fever. It is well to recognize that on account of the unstable condition of the nervous system, and especially of the heat regulating centre, sudden high temperatures are common from comparatively slight causes. This temperature may even cause a convulsion, which is the analogue of the chill in the adult. Temperature curves in children are not as uniformly typical of disease conditions as in adults. As children grow older they approach the adult type in this as in other respects. One word of warning, however. A child who is old enough to be reasoned with will probably hold the thermometer in its mouth; in all other instances we should make use of the rectum. In fact, the rectal temperature is really the only reliable one.

I have merely suggested the most common sources of error in diagnosis in diseases in children, with brief statements of the reasons, without entering into details. My hope is that some of you will find these suggestions helpful.

Taylor Building.

DIAGNOSIS OF PREGNANCY IN THE EARLY MONTHS.*

By LLEWELLIN ELIOT, M. D., Washington, D. C.

A correct diagnosis of pregnancy in the early months, that is to say, before there are symptoms which make a diagnosis a matter of surety, is often a matter of great importance, since it may dissipate scandalous reports circulated by gossip-mongers, when these reports affect single women or widows; it also may be necessary in courts of law in order to settle law suits, libel cases, or to disprove charges

*Read before the Medical and Surgical Society of the District of Columbia.

made in an action for divorce; it may be necessary to determine pregnancy before the performance of surgical operations on the uterus or other parts of the body, and it is with a view to endeavor to assist in these matters that I have taken up this subject. By reason of the very short time given for the preparation of this paper, no effort has been made to enter deeply into the subject; my aim is, therefore, simply to give my experiences in making an early diagnosis.

Mistakes have been made, and are recorded in medical journals, where a pregnant uterus has been tapped in the mistaken belief that the abdominal enlargement was ascites; a fibroid uterus has been incised; and frequently dilatation of the cervix, introduction of tents or drains, and curettage has been done in ignorance of the true state of things. Let it be said, however, that while in the vast majority of instance these mistakes have been honestly made, at the same time, some of them would and could have been prevented or avoided, had a little more care been exercised in the examination of the woman. The medical profession is not an association of criminal abortionists.

How we are to escape making such mistakes, how we are to aid an innocent woman, and how we are to protect ourselves, are for discussion.

To tell a woman that she is pregnant when there has been no opportunity for such an event occurring, is to lay one open to very adverse criticism, and a thing hard to live down; but to tell a woman that she is pregnant, notwithstanding her earnest denials, although a pregnancy exists, puts one in the "smart Aleck class," a man to be avoided if relief is desired from an incumbrance.

It will be immaterial what plausible story the woman, pregnant without legal right, may relate, detailing an exposure to cold, getting the feet wet, shock, fright, irregularity in times of flow, the questions, in cases of doubt, are: "Did you or did you not, and when?" are the foundation stones of an inquiry leading to diagnosis; at the same time, every story should have attention before a cross examination is instituted. One of the most remarkable stories I have read was published in a medical journal, some years since; the editor made no comments on it—he left that for the reader. In substance, it was about as follows: An officer was wounded in battle, the bullet struck him in the scrotum, made its exit and, in pursuing its course, struck a young woman in the abdomen. According to the story, she was sitting on a porch quite a distance from the battle field. The officer was carried to her home and there he remained until he was able to leave the army for his own home. In gratitude for the time and attention she had bestowed upon him, he left her pregnant; the woman positively denied any and all intimacy with the man, but claimed that she had been impregnated by the bullet that had passed through the scrotum.

In saying the "early months," the time limit is placed at a period not later than the beginning of the third month, since after that period of time has passed almost "any one who reads can run." Such signs or symptoms appearing during the time are only presumptive; they will be considered separately.

We have first a cessation of menstruation. Now, the menstrual flow may be interrupted in its regularity by various causes and not be a result of pregnancy. Exposure to climatic changes, tuberculosis, anemia, fright, shock, debilitating diseases, or change of life, may be operative. Absence of menstrual discharge of a woman who has passed her periods with a degree of regularity must be regarded with suspicion especially when she gives a history of a feeling of chilliness, a feeling of extreme lassitude, crowd faintness, a change in disposition, nausea, anorexia, vomiting, sleepiness, irritability of the bladder, annoyances in the breasts and an enlargement of Montgomery's follicles.

Pregnancy may occur before the menstrual function has been established; it frequently occurs during lactation; it has occurred after the menopause, and it may occur after conception has taken place. The other symptoms may arise from a variety of causes.

Vomiting, nausea, morning sickness, is more reliable when it is found in connection with absence of menstrual flow in a woman previously regular; it may come on just after conception, but ordinarily it comes about the fourth week; in many instances, it will affect the man and not the woman.

Breast enlargement, enlargement of the papillae, itching, darkening of the areola, will be observed about the fourth week.

Colostrum in the breast appears as early as the twelfth week, but as this may appear in

other conditions of health, it does not signify much. Garland, in a recent paper upon this subject, records the results of an examination of 338 women; he found colostrum present in the breasts of 120 pregnant women, a percentage of 36, and in the breasts of 109 non-pregnant women a percentage of 33. After studying his paper, I make the percentages 28 and a little less than 16. He concluded the presence of colostrum cannot be accepted as an auxiliary sign of pregnancy.

Jacquemier's sign, softening of the cervix, is usually found in the sixth week, and Goodell's law is: "If the cervix feels as hard as the cartilage of the nose, no pregnancy exists; if it feels like the mucous membrane of the lip, pregnancy is possible."

Bluish or violet discoloration of the vagina and vulva appear about the eighth to the twelfth week.

Rash's sign, uterine fluctuations, may be detected as early as the second month.

Kyestein appears in the urine after the second month.

The position of the cervix in the first three months is lower and a little to the left; after this time it rises with the uterus.

Increase in the amount of the vaginal discharge, as well as vaginal temperature, may result from other causes than pregnancy.

Hegar's sign, that is softening and compressibility of the isthmus of the uterus and its lower segment, appears from the fifth to the eighth week, but, in order to satisfactorily obtain this sign, it will be necessary to give an anesthetic. This sign, however, appears again about twenty days after a delivery.

Hick's sign, the intermittent contractions of the uterus, may be detected about the tenth week.

We have seen, now, there must be a history of cessation of menstruation, nausea or morning sickness, irritability of the bladder, annoyances of the breasts, together with finding a discoloration of the vagina, uterine fluctuations, descent of the cervix, and Hegar's sign, before a positive opinion may be expressed; and these must be in evidence from the fourth to the twelfth week. In order to formulate an opinion based upon all the signs mentioned, it will be necessary to make a vaginal examination, a procedure to which many women will object, especially those who have become pregnant through illicit connection. These women want relief, but they do not want or ask for a diagnosis; however, an examination will be permitted, hoping that the history will so mislead the examiner, and that he will do something to relieve their condition.

The Jorissenne sign is one that has stood me in good stead and has been relied on hundreds of times. It is a study of the pulse in the early weeks. This sign is seldom mentioned in works on obstetrics; it is the result of a physiological hypertrophy of the heart. As the heart becomes hypertrophied in typhoid fever and returns to its normal state after recovery, so does the heart become hypertrophied in pregnancy, to return to its original state after delivery. This is a passive, a compensatory hypertrophy, due to physiological processes and not due to pathological conditions.

Graves's law is, "In physiological hypertrophy of the heart, the pulsations (at the radials) maintain a constant frequency in every position of the body." In healthy persons the pulse beats with greater frequency in the standing position than in the horizontal, the difference being 5 to 15 a minute. If the number of pulsations does not exceed 60, the difference is not greater than 6 or 8, and it increases proportionately to the frequency of pulsations at the time of the examination; for example, if a moderate amount of exercise has caused the pulse to rise to 90 or 100, it is not unusual for the difference to be 20 or 30 pulsations.

Theoretical discussion of hypertrophy of the heart will not be followed in this paper, and whether there is a physiological hypertrophy or a compensatory hypertrophy condition of the heart, has not been admitted by all writers, and many deny its existence. At all events, in pregnancy, especially in the early months, the heart beats vary in number, but little with the patient standing, sitting or lying down—they are practically equal in number.

I shall not detail a long list of histories where the pulse test has been called into requisition; only a sufficient number will be given to prove the value of the test:

Date Missed	Date Consulted.	Standing	Sitting	Lying Down	Diagnosis	Result.	Time Missed
August 2	August 27	72	76	74	Pregnant	Delivered	53 days.
May 15	May 20	64	64	68	Pregnant	Delivered	35 days.
August 17	August 17	84	86	88	Pregnant	Delivered	47 days.
May 25	August 25	98	102	98	Pregnant	Aborted	120 days.
June 17	June 20	64	68	64	Pregnant	Aborted	33 days.
January 18	January 23	96	100	96	Pregnant	Aborted Mch.	36 days.
August 15	August 22	94	100	94	Pregnant	Delivered	37 days.
November 8	November 12	92	92	92	Pregnant	Delivered	40 days.
October 22	October 26	96	100	98	Pregnant	Delivered	56 days.
April 14	June 23	82	82	86	Pregnant	Delivered	96 days.
November 13	January 6	94	96	95	Pregnant	Delivered	83 days.
March 15	March 22	72	76	74	Pregnant	Delivered	37 days.
January 10	February 24	90	84	90	Pregnant	Delivered	43 days.
January 10	February 25	92	84	92			
October 28	December 12	74	72	74	Pregnant	Delivered	42 days.
October 21	November 6	76	78	76	Pregnant	Delivered	45 days.
August 16	September 30	90	84	86	Pregnant	Delivered	84 days.
November 17	May 18	88	80	84	Pregnant	Delivered	

1106 *P Street, N. W.*

CERTAIN MARKS IN THE DIAGNOSIS OF ACQUIRED SYPHILIS.*

By R. M. LeCOMTE, M. D., Washington, D. C.

The past twelve years have been far-reaching in respect to the advancement that has taken place during them in our knowledge of the natural history and therapy of syphilis. In 1905, the animate cause of syphilis, the spirocheta pallida, was discovered by Schaudinn[1] and in the following year the complement fixation reaction on the blood serum was adapted to its diagnosis by Wassermann;[2] the former discovery rendered possible the establishment of a diagnosis of syphilis at an earlier stage than heretofore, and the latter enabled physicians to follow the effect of treatment after clinical manifestations had disappeared. In 1907[3] a modified syphilis was produced in rabbits by the injection of syphilitic virus into the testicle, and this was followed in 1910 by the discovery of salvarsan, by Ehrlich.[4] Thus, within six years, both the cause of the disease and a remedy for it which ranks with quinine as a specific, were discovered.

The study of patients under these new circumstances has materially changed some of our ideas as to the nature of the disease. Formerly syphilis was considered a distinct clinical entity, in which the primary stage might occasionally be overlooked, but which was always marked by secondary symptoms which were diagnostic and which would sooner or later merge into tertiary lesions unless the patient had good fortune and was properly treated: now it is looked upon as an infectious disease which presents no constant clinical features and which has no typical course or termination. The subject is still unsettled in many respects, but some points, particularly in diagnosis, are fairly well established, and this paper is an attempt to present such of these as may be illustrated by cases coming under my observation.

The diagnosis of syphilis in the chancre stage has always been the subject of much discussion. Before the discovery of the Spirocheta pallida, it was necessary to await the development of secondary symptoms before the diagnosis could be considered as conclusive; now, by the use of the dark-field microscope, a diagnosis can be reached at the first visit in the majority of cases, provided strong antiseptics have not been used previously in the treatment of the sore. A certain proportion of cases will fail of diagnosis by this method and in these the development of a positive complement fixation reaction in the blood or of secondaries must be awaited. Ideal conditions would permit a Wassermann to be made every week for a period of six weeks, in every case with venereal sore, but in private practice it will usually be difficult to get the patient to submit to more than one test, which should be taken about six weeks after the sore has healed or after the examination or whenever suggestive symptoms appear. Study of venereal sores by this method has established the fact that every one, no matter how insignificant it may appear, should be considered as the primary sore of syphilis until syphilis

*Read before the Medical Society of Northern Virginia and the District of Columbia, at Washington, D. C., November 21, 1917.

has been excluded conclusively. The following case will illustrate the apparent innocence of sores from which syphilis may develop.

A Greek waiter who had been under treatment for chronic gonorrhœa for some time, presented himself with three small vesicles on the glans penis and a history of intercourse two days previous to their appearance. They healed readily under applications of 10.0 per cent. silver nitrate solution and the use of calomel as a dusting powder. At no time was it possible to express sufficient secretion from the sores to furnish material for a dark-field examination. Fifty-three days after their appearance, however, he developed a macular eruption, general lymphatic glandular enlargement and sore throat, the combination admitting a clinical diagnosis of syphilis. At this time, three firm nodules, about 1.0 cm. in diameter, appeared on the penis at the sites of the original three sores. The complement fixation reaction in the blood was potitive and the symptoms were readily cleared up by injections of mercury. The incubation period in this case, two days, is, of course, questionable.

The discovery of a positive complement fixation reaction in patients who apparently are and have for a long time been free from symptoms of syphilis and who could have no interest in concealing an attack that they might know of, has led some to believe that syphilis may occur without a visible primary lesion. It has not been proven that this is possible in man, but it does seem quite certain that a person can be infected and the disease remain latent for long periods without exhibiting diagnostic symptoms or signs clinically. Thus Qualls,[5] in a Wassermann survey of the patients, admitted to the surgical clinic of the Anacon Hospital, found among the nonsuspects (i. e., persons without clinical evidence of syphilis), that thirteen per cent. were positive, including both whites (2.3 per cent), and colored (23.7 per cent.) On account of the possible occurrence of false positives, as noted below, this is not necessarily conclusive, but one of this group died suddenly from a ruptured aneurism, not suspected from clinical features, and such a case would be. The following case, the wife of a male syphilitic, will illustrate latent syphilis capable of demonstration during life.

When the husband was first seen, he had atypical secondary syphilis and a positive blood test, both of which yielded readily to antisyphilitic treatment. The wife at the time had a slight general lymphatic gland enlargement and a positive Wassermann in the blood but no other discernible signs of the disease. She began treatment with mercury by mouth, but soon gave it up because she had never experienced any symptoms. Fifteen months later she developed an arthritis of the right ankle joint: X-ray was negative for disease of the bone but the blood test was double plus. After rest for one month did not relieve her pain, she decided to take salvarsan, which cleared up the arthritis in a short time.

A second case that will bear on the same point is the wife of a man who had cerebrospinal syphilis. They had been married for ten years and had an apparently healthy child, aged nine years. A long continued sore throat and cervical adenitis, diagnosed as acute tonsillitis by her physician eight years before, was the only thing in the history suggestive of a possible secondary syphilis. She had been operated upon twice for cystic ovaries since that time. Physical examination was negative except for slightly enlarged cervical lymphnodes; the blood was double plus and the test was repeated twice afterwards, at one time being done in two different laboratories on the same specimen and the third time in graded amounts down to one-eighth of the usual amount, always with the same result. In this case the family physician did not believe that the woman had syphilis and she was not treated. Although apparently healthy a year later, it is certain that she has in some organ a focus of syphilitic infection which does not give rise to clinical signs recognizable by available examinations but which, sooner or later, will manifest itself in some way or other.

To another class of cases, of which the following is an example, belong those who have had various ailments, perhaps for years, none of which has been sufficiently clean-cut to diagnosticate with certainty.

The wife of a merchant, the eldest of four children, had been married for nineteen years without having ever become pregnant. She had never had any sore throat, alopecia, skin eruption or leading symptom except a leg ulcer, which had been slow in yielding to treatment and which finally healed after the administration of a pill containing arsenic and potassium iodide. Two years before coming

under observation she had been operated upon for cervical adenitis, the report of the microscopic examination of the removed nodes being "chronic inflammation." At the time of the examination she presented none of the physical stigmata of syphilis, but was referred on account of an unexplained loss of weight. She had a slight anemia of a secondary type and a double plus Wassermann, which was repeated one week later. Her family physician directed her to take the commonly used bichloride of mercury and potassium iodide prescription and she returned for another examination three months later. She had gained twenty-seven pounds in weight and felt greatly improved but the blood test was still positive. The blood of the husband at this time was negative. The case was not treated more thoroughly because the family physician did not want either of the two to suspect that the wife had syphilis.

Our diagnostic means may fail at times or may give misleading data if not properly interpreted. Spirochetes may not be found in the primary sore and it should always be kept in mind in dealing with these, particularly in extragenital sores that resemble chancres clinically, that a simple sore may be infected with syphilitic virus after its development, and thus give misleading data as to duration.

A telephone lineman was referred with a sore on the anterior abdominal wall just above the pubis and a history of numerous exposures to possible syphilitic infection, both recent and remote. The sore had existed for eight weeks and was clinically a chancre: not only were Spirochetes not found in the sore but, although he developed clinical syphilis later, the Wassermann reaction in the blood was negative. It is not uncommon to fail to find Spirochetes in the primary sore, but the Wassermann is usually positive within six weeks after the clinical onset. Its failure to appear in this case may be explained by assuming that the sore was simple at first and had later been infected with the syphilitic virus. The fact that secondary symptoms did not appear until five weeks after the examination, lends color to this view.

The Wassermann reaction must always be interpreted in the light of the history and of demonstrable symptoms and signs. While the occurrence of false positive reactions is not commonly admitted, mention of them is beginning to appear in the journals[6] and the many modifications of and the attempts at standardization of the reaction are but tacit admissions that it does not give complete satisfaction. Although these attempts are usually directed towards making it more delicate and far reaching, an occasional case will occur in which the false positive must be admitted.

A woman with enlarged cervical lymph-nodes was referred for a blood test which was double plus and was reported accordingly. The patient was referred back for treatment and a physical examination revealed advanced pulmonary tuberculosis without stigmata of syphilis. The blood test was repeated several times later and was always negative, so that the conclusion was forced that she did not have syphiliis.

Certain types of nervous syphilis give positive immunological findings only in the spinal fluid, the blood remaining negative throughout. It is particularly important to recognize this because, if these cases are to be helped, it must be done by instituting treatment early, before marked damage to the nervous system has been done.

A man was referred for a blood examination by a physician who had treated the man's wife for syphilis. The result was negative and although the physician expressed surprise at the result, he did not question it until a month later when he sent the patient back with the request that syphilis be excluded. The clinical picture was one of tabo-paresis and this was checked up by spinal fluid examination and the subsequent history. In this case the physician had not placed sufficient dependence on his clinical findings.

The following are a brief set of rules that have been found of service in dealing with venereal sores and in interpreting the results of the complement fixation test for syphilis:

A. Every venereal sore should be examined with the aid of the dark-field microscope as early as possible, and this should be repeated several times in case Spirochetes are not found at the first examination. Before telling such a patient that he is free from syphilis, he should be observed at intervals for a period of at least six weeks and a complement fixation reaction done at the end of that time must be negative.

B. A positive Wassermann on the blood is conclusive only when:—

1. There are distinct symptoms or signs attributable directly to syphilis, or

2. There is a definite history of previous infection or known exposure to infection (confrontation), or

3. The reaction is constantly positive in several tests taken at intervals, or is positive in high dilution.

C. A negative Wassermann on the blood is conclusive only when:—

1. There are no signs or symptoms referable to syphilis discoverable and no history of previous infection or possible exposure to infection obtainable, or

2. There is a definite history of syphilis, treated intensively and not succeeded by symptoms of the disease.

In the latter instance, one negative test does not mean that a cure has been effected. Before this can be said to have been obtained, the following should be secured:

D. 1. A negative blood test at frequent intervals and no symptoms for a period of two years during which no antisyphilitic treatment is taken.

2. A negative provocative Wassermann at the end of this time.

3. Negative spinal fluid findings at the end of this time, including normal cell count, globulin content, colloidal gold and complement fixation tests.

REFERENCES.

1. Schaudinn and Hoffman: *Arbeiten aus dem kaiserl. Gesundheitsamt.* Bd. xii, Heft 2, S. 527, and *Deutsch. med. Woch.*, 1905, Nr. 18. S. 711.

2. Wassermann, Neisser and Bruck. *Deutsch. med. Woch.*, 1906, xxxii., 745.

3. Parodi. *Gior. d. r. Accad. di Med. di Torina*, 1907, 4S, 13, 288, and *Centralbl. f. Bakteriol. Orig.*, 1907, xliv., 428.

4. Ehrlich and Nata. Die exper. Chemotherapie der Spirillosen, Berlin, 1910, Springer.

5. Qualls, Guy L. *Amer. Jour. of Syphilis*, 1917, Vol I., No. 4, p. 714.

6. Stillians, Arthur William. *Amer. Jour. of Syphilis*, 1917, Vol. 1., No. 4, p. 767.

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ALBUMINURIA OF PREGNANCY.*

By H. M. SNEAD, M. D., South Hill, Va.

When assigned by the program committee to write a paper on this subject, the thought ran through my mind that there was nothing new that I could add to what had already been written, so in the preparation of this paper my aim has been to review in general what has been written as to its cause, significance and the special conditions in which it is present.

The presence of albumin in the urine of pregnant women no doubt dates back as far as time. Some authorities claim that it is present some time during pregnancy in every case, while others claim to have found it in fifty per cent. of a large number of cases examined. Its presence is due to many and varied conditions, and for convenience I have divided these into three classes—those cases in which it is due to some renal trouble, such as nephritis, which was present before conception took place; another in which there was present no pathological condition to which we could attribute the albuminuria, this being known as physiologic albuminuria; and, lastly, a condition that is familiar to you all in which the albumin is accompanied by symptoms of toxemia.

Since it is present under so many different circumstances and its presence or absence is not truly significant of any special pathology, I have chosen to discuss albuminuria of pregnancy when accompanied by other symptoms of toxemia or impending eclampsia.

The real cause of this condition is unknown any many plausible theories have been advanced until it is called the disease of theories. I shall merely mention a few of them in passing, the chief of which is that it is due to the toxemia of foetal development passing back into the maternal circulation and there being absorbed; another, that it is due to the mechanical pressure of the uterus on the renal circulation and still another, a reflex vasomotor disturbance causing constriction of the renal arterioles and subsequent renal anemia. There are, in addition, many other theories, too numerous to mention. No matter what the cause, its presence when accompanied by symptoms of toxemia is a serious condition, both to the physician and patient and one in which prompt and correct treatment is imperative.

The symptoms of this condition are so familiar to you that the mere mention of the subject recalls many unpleasant experiences, both to the patient and physician. What are the first symptoms we notice in albuminuria or toxemia of pregnancy? Unfortunately, in many cases, the first or danger signals have passed when the physician is called and finds that the woman has been seized with a con-

*Read before the Southside Virginia Medical Association, at Petersburg, Va., December 11, 1917.

vulsion or is actually in coma. I might say the first symptom is the actual existence of pregnancy; then we have following upon this the presence of albumin in the urine and a decrease of urea, accompanied with headache, high blood pressure, edema, nausea and vomiting, and possibly some disturbance of vision.

After discovering these symptoms, the next question arising is as to the treatment. I have classified this for convenience into the preventive or palliative and the curative or radical treatment. In the preventive, it is our first duty to educate the expectant mother as to the care of the physical and mental being during this critical period of her life, and in so doing, the responsibility falls heavily upon our shoulders. Loose and comfortable clothes should be worn, preferably suspended from the shoulders, and a suitable diet free from the gross meats and vegetables. Where there are already symptoms of toxemia, preferably a mild diet with a small amount of bread until the symptoms have subsided should be advised. Then we should instruct her as to the necessity of eliminating toxins by keeping the skin healthy and clean and the liver and kidneys active, for it is through these that we hope to find relief from the symptoms. Nothing acts better than occasional doses of magnesium sulphate, cascara, senna, and some of the aperient waters, and in pronounced cases I do not hesitate to give large doses of the mild chloride and always with good results.

Some authorities differ as to the quantity of liquids to be taken, especially water, but I believe this should be given freely, probably in the form of some lithia water, unless edema is marked and the blood pressure high.

If we carry out the above principles, I believe that many cases of eclampsia can be prevented and the mother carried over a dangerous period to a happy termination. Of course, when the symptoms are marked and we fear an impending convulsion, then the treatment becomes more active than the above and resolves itself into absolute rest and rapid elimination of the toxemia through the organs of excretion by a more strict application of the above mentioned remedies. Some authorities lay great stress upon veratrum, while others claim no marked results from its use.

This brings us down to the last and most important phase of the subject, the treatment of eclampsia, the thing we have been working to prevent. It is here that we have to act and act promptly, as we have the life of two in our hands. The symptoms are familiar to you, that is, convulsions and impending coma or death. Nothing relieves the convulsion quicker and better than the inhalation of chloroform, and this should be supported by morphine hypodermically in conjunction with large doses of chloral and bromides, either by mouth or by rectum. If the blood pressure is high, which is generally the case, venesection should be employed and the patient freely bled.

If there are periods of consciousness, Epsom salts should be administered in large doses in conjunction with high enemas of normal salt solution. If these remedies fail and there is an increase instead of a decrease in the symptoms, then we should direct our attention to the rapid delivery of the foetus by artificial means, if labor has not already begun or is not progressing satisfactorily.

If, upon examination, we find no sign of labor, then we should dilate the cervix and deliver either by forceps or version.

The after-treatment consists in the continuance of the process of elimination.

I have purposely not gone into details in the preparation of this paper, but have merely mentioned the important points with a view to bringing out a general discussion of this important subject.

In conclusion, I wish to emphasize the fact of the great responsibility and duty that is ours as guardians of the health and lives of these innocent mothers and mothers-to-be, in educating them how to avoid the dangers to which they may be subjected, and as to the importance of proper care and the use of preventive means at their disposal.

Proceedings of Societies, Etc.

Roanoke Academy of Medicine.

December 3, 1917.—Regular meeting, Dr. Trout in chair. Minutes of November 19th read and approved.

Dr. Trout exhibited very large (20 lb.) fibroid removed by operation the same day. The peculiar point of interest was the family history connected with the case. A mother and four daughters were all victims of fibroid disease, the mother making spontaneous recovery

when the tumor underwent atrophy at time of menopause; two daughters, declining surgical intervention by reason of mother's recovery, both lost their lives in consequence. The third daughter made a good recovery after operation; the fourth coming to operating table only that day.

Dr. Paul Davis' application was balloted upon and he was unanimously elected a fellow.

Dr. A. P. Jones made a fine talk, having as his subject, "Rupture of the Intestine by Blunt Force." He cited several cases, some of his own practice, and some from literature. Various features of his address were discussed by Drs. Armistead, Lawson, Strickland, Brady, Preston and Trout.

Dr. Lawson made report of a case of "Atrophy of Small Intestine, with Post-Mortem Findings."

At this juncture the application of Dr. L. H. Justis was presented for consideration. It was explained that an emergency existed, by reason of Dr. Justis desiring to enter the reserve corps, and it being necessary to this end that he be a member of his local society, a suspension of the rules was voted, in order that his application might be balloted upon at this meeting. He was unanimously elected.

Dr. Garrett moved that all dues of the State Society be collectible by the State Treasurer. Carried.

Several matters of purely local interest came up for discussion. Debate was protracted, much parliamentary tactics called into play, and considerable perfectly amicable wrangling ensued, until these matters were disposed of. In this connection, it is a pleasure to state that our Society can differ in opinion very widely amongst its component members and the several members wax quite warm in presenting the question as each views it, and yet debate is never marred by any approach to ill feeling, or unseemly personalities. That this is a matter for congratulation no one will question. E. P. Tompkins, M. D., *Secretary.*

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 434.)

Three Bronchoscopic Cases of Dentist's Origin.

By BURT R. SHURLY, M. D., Detroit.

As these three cases occurred during the last decade in a city of an average population during this time of 500,000 people, and as we have an estimated population of over 100,000,000, it might be fair to conclude that possibly six hundred cases of similar accident had occurred in the United States and Canada, perhaps, during a similar period. It might, therefore, be of importance to devise a special protective device to prevent the sudden inhalation of foreign bodies during dental procedure.

Again, the question of the medicolegal problem, with questions of responsibility as to whether these accidents involve ordinary care in dental procedure, might be of interest, although exceedingly delicate ground to tread upon, as one of these cases involved a very considerable law suit, and the other two were allowed to pass with nothing more than an attempt to collect the surgeon's fees from the dentist. The medicolegal possibilities did not come to actual trial.

The pecuiliar relationship of laryngology and clinical medicine and its great importance, one to the other, was again illustrated by the fact that two of these cases first came under my observation as referred cases for clinical examination of the throat and chest on account of long, persistent cough which simulated pulmonary tuberculosis.

Case 1.—Miss S. stated that her cough dated immediately after the extraction of tooth and gas anesthesia. Radiogram showed tooth. Trachea was not cocainized and bronchoscopy failed. Tracheotomy and subsequent bronchoscopy, resulted in removal and cure.

Case 2.—Married woman. Cough followed nitrous oxid and tooth extraction. There was a marked odor of rubber. The air supply of the lower part of the lung was cut off, and a piece of hard rubber, which had been a part of a dental mouth gag, was brought up to the trachea, slipped from forceps, but fortunately coughed up soon after by the patient.

Case 3.—Mr. L. W. B., age forty-nine years; architect by profession; was receiving treatment from a dentist preparatory to filling a tooth. The cavity was treated with a dental burr, which in this particualr case was held between the thumb and forefinger during the process of application. This tiny instrument suddenly slipped and was inspirated into a lower division of the left bronchus. After this remained in the bronchus for ten days, the patient was sent from his home in the central part of the State of Michigan, to the Detroit

Eye, Ear, Nose and Throat Hospital. The X-ray examination reported—anteroposterior and lateral plates were made of the chest: "We find a shadow in the lower left thoracic region, which we think should be interpreted as a metallic foreign body in the lower left bronchus." After a thorough cocainization with novocain of the respiratory passages, with cocainization advanced as the tube was introduced and followed to within the lowest terminations possible, and assisted by Dr. Hickey, I was able to extract this foreign body, which was pointing with the needle part upward. The patient recovered completely without symptoms.

Discussion.

Dr. Thomas Hubbard, Toledo: It seems that the position of a patient's head in a dental chair is very conducive to the loss of a foreign body in the throat or air passages. Fortunately, most of them go into the gastro-intestinal tract. I have in mind a case which recently occurred of a nurse taking dental treatment, in which a small dental burr was lost.

She was taken violently ill and returned to the city with violent abdominal disturbances. The X-ray failed to locate the dental burr: the operation was appendectomy, the surgeon expecting to find the dental burr in the appendix. Had this girl not had the surgical operation, the appendectomy, in all probability the whole thing would have been laid to the dental accident.

Another case comes to my mind in which a tooth was lost and remained in for several years and was then spontaneously expelled. The patient was not very ill any of the time and finally expelled the tooth spontaneously.

The third case is that of a patient, a woman, who carried a fragment of Allen's dental cement, which is quite as firm as a tooth structure, in her left lung for seven months, and during that time had all the symptoms of advanced tuberculosis, with a very considerable abscess cavity around it. This brings up the question, as suggested, the legal complications of these cases. In justice to the dental profession, I believe we should take them into our confidence in all cases of liability on the part of the dentist, and he should be taken in to see the operation. This relieves us of any possibility of unfair treatment towards the dentist.

Dr. Harmon Smith, New York City: I wish to call attention to a case more or less similar to the third case mentioned by Dr. Shurly. The patient was having his back upper molar tooth drilled by a burr, as represented in the third case. The dentist dropped the burr while the patient was in a semirecumbent position with his head backward and drawn to one side. The dentist took up a pair of forceps and when he went to find the burr it was gone. He became alarmed and told this gentleman to have an X-ray taken. The gentleman felt no inconvenience, and instead went to a board meeting down town, and in due course of the day had the X-ray picture taken. It showed the burr in the upper left lobe, and he was taken to the General Memorial Hospital. He was bronchoscoped, and the bronchoscopist attempted to remove it. He tried for a while and did not succeed, and asked me to come up. I failed, and we decided then to have Dr. Jackson see the patient. In the meantime another gentleman in town was suggested, and he came and failed. Dr. Jackson came on, and he had another X-ray taken to see exactly where the foreign body was located, and he put it down as a case in which it was impossible to obtain the foreign body. It had lodged in the upper outer lobe of the lung. It was recommended by the surgeons that part of the lung should be removed, but the gentleman succumbed to the operation. The burr, however, was obtained.

Dr. Albert C. Getchell, Worcester: I will add two cases to Dr. Shurly's; one following extraction of a tooth under ether. The patient was operated upon and recovered and the bill was paid by the society by whom the dentist was insured. The second case was a patient seen recently with a cough following immediately upon extraction of a tooth. This patient developed lung abscess, was operated upon and recovered, and then had a recurrence of the abscess.

Dr. Carl E. Munger, Waterbury: I know of a case in which a dental burr was lost and the fluoroscopic view showed it just below the vocal cords. Tracheotomy was done and no dental burr was found. I should say that during the administration of the ether there was a good deal of struggling on the part of the patient, and that the burr was coughed up into the nasopharynx and lodged there. Next morning the patient found something in his mouth

and spat it out. It was the dental burr. In this case the dentist paid the bill.

Dr. Bryson Delavan, New York City: I was familiar, as everyone else in our city was, with the case reported by Dr. Harmon Smith. The thing which impressed me most with regard to that case, was the futility, as a general rule, of the radical operation for the removal of a foreign body. In looking over a long series of those cases, it seems to me, while the observation may not be exactly germaine, unless the bronchoscope will succeed in removing the foreign body, the patient's chances of life are better if time is given before placing him in the hands of a surgeon, than if placed at once in the hands of a surgeon and an operation for the removal of the foreign body performed promptly. This was exactly my attitude at that time.

Dr. Emil Mayer, New York City: I recall the case of a gold crown of a wisdom tooth which was inhaled by a patient. With the valuable help of our member, Dr. Arrowsmith, I was able to remove this successfully. The case occurred about two years ago. One interesting point in regard to that case was that the anesthesia was rectal, which prevented anything like a struggle on the part of the patient, thus possibly dislocating the foreign body; and another point of interest was that as I removed the gold crowned tooth, Dr. Arrowsmith was standing guard over the patient, with a pair of forceps in his hand, and as that large crown was brought into the mouth and slipped from the grasp of the forceps, Dr. Arrowsmith promptly grabbed it and brought it out.

Dr. Robert C Lynch, New Orleans: I would call attention to the case of a lady who was having a set of false teeth made and the dentist was using plaster of Paris as for modeling. He put in a cup filled with plaster of Paris and pushed this up, forcing her head back, and the plaster of Paris went down into her lung. This was five years before I made a bronchoscopic examination. I removed nine pieces of plaster of Paris from both lungs. I also found at that time a very marked constriction of the bronchials, and these I dilated, relieving the persistent spasmodic cough completely.

Dr. Stanton Friedberg, Chicago: We may divide the accidents of work on the teeth and other dental accidents into two classes: First, accidents that occur at the time of operation; and, second, accidents that occur from insufficiently attached or loosely attached crowns and bridges.

In one of my cases the cough came on immediately after anesthesia for extraction of a tooth. The cough persisted for a number of months, and the patient was sent to Colorado, where a picture was made, and she then returned to Chicago. There was a small abscess in the lower part of the right lung. The tooth was recovered by upper bronchoscopy, but the abscess persisted. The patient was under observation for three to four months afterwards, without perceptible improvement.

Another case was that of a man who in an intoxicated stupor loosened a bridge consisting of three teeth, which he aspirated into the left bronchus. A picture showed the bridge. On attempting to cocainize the larynx, hemorrhage of the lung started. The tube was introduced, but it was impossible to see anything. A second attempt was made under fluoroscopic bronchoscopy, and although the hemorrhage recurred the foreign body was extracted.

In the third case, that of an aspirated dental broach, upper bronchoscopy could not be done on account of the inability of the patient to open his mouth. In consultation with his surgeon, inasmuch as his symptoms were not acute, we decided not to do a tracheotomy, but to wait until the swelling about the jaw subsided. On account of the fine point of the broach the patient was advised to refrain as much as possible from coughing. Fortunately for him, however, the broach was coughed out several days later.

Dr. John F. Barnhill, Indianapolis: Five years ago some one in Indiana consulted me concerning his daughter, who lived in New Jersey. She said she had had some sort of nasal operation, and on the way home was seized with asthma, and he wished to know what could be done. I suggested that possibly some foreign body had gotten into the larynx or trachea. Later he consulted me again, and I requested that he consult Dr. Jackson. She started to Pittsburgh, and on the way coughed out a complete turbinated body that had in some way been inhaled during this operation.

Dr. Burt R. Shurly, Detroit (closing the discussion): I have nothing more to add except

to emphasize the fact that there are really a great many of these cases, apparently. If we got them all together there would undoubtedly be a certain number of cases of lung abscess, the details of which have not been properly looked into, which would prove to be of foreign body origin.

(*To be continued.*)

Analyses, Selections, Etc.

The Calcium Content of the Blood.

We have again and again pointed out in these pages that there is no tissue of the body in which nature maintains so constant a composition as that of the blood. The introduction into it of any foreign substance at once calls into activity various methods of elimination, or destruction, which are utilized in an effort to get rid of it and even when substances which are normally present in the blood are introduced in quantities in excess of those which are usually present, again every effort seems to be made by the body to immediately establish a normal tonicity or quantity. If any of the usual salts of the blood are injected into the blood-vessels, either the kidneys get rid of the excess material, or the blood draws from the fluids of the body a sufficient amount of liquid to dilute the injected salts so that their concentration is physiological. If anything is done which interferes with either of these processes, salts, which ordinarily are present and innocuous, immediately become poisonous. This is well illustrated if the potassium salts are taken when the function of the kidneys is impaired. A man with healthy kidneys can take large quantities of potassium salts with impunity, but if his kidneys cannot properly eliminate the potassium salts, symptoms of poisoning from these salts soon appear.

In this connection, we find of interest a communication which has recently been published by Halverson, Mohler, and Bergeim upon "The Calcium Content of the Blood" Other investigations have shown that the calcium content is remarkably constant. The investigators whom we quote studied the blood of human beings in different stages of pulmonary tuberculosis, and have reached identical results, finding that even when a diet rich in calcium is administered, the calcium content of the blood, both in the sick and in the well, ranges between 9 and 11 milligrams per cent. the amount usually found, however, being 10.5 milligrams per cent. Even in conditions when the kidneys are diseased, and uremia is present, it has been shown by Lyman that the calcium is not increased, and, notwithstanding the theroies which were advanced some years ago, chiefly by Wright, that in hemophilia and purpura the calcium salts would prove useful therapeutic agents in that they would overcome the paucity of this substance in the blood, it would appear that in these diseases there is not a real paucity, although the amount of calcium may be about 75 per cent. of that which Halverson, Mohler and Bergeim found to be present.

It is pointed out by these three investigators that a man weighing 150 pounds has in the total volume of his blood only about 0.3 of calcium, although the bones contain four thousand times this quantity. From this great reservoir of calcium the system, therefore, should be able at all times to obtain the infinitesimal amounts which are necessary to maintain the normal calcium content of the blood. This probably accounts for the constancy of content which had been found, and raises a grave doubt as to whether the administration of calcium salts by the mouth or hypodermically is of much value. Such a doubt has been raised by clinicians who, following Wright, have employed the calcium salts in cases in which the coagulation time of the blood was materially prolonged. To such an extent is this true that we think it may be fairly stated that whereas a few years ago, subsequent to the publication of Wright's papers, calcium chloride or lactate was often given, recently such a plan of treatment has almost dropped out of sight. Possibly the discovery on the part of clinicians that they did no good is explained by the results of Halverson, Mohler, and Bergeim.—(*Editoral, Therapeutic Gazette*, November, 1917).

Drug Idiosyncrasy and Anaphylaxis.

Clinical observations of anaphylactic reactions were at first confined to the accidents of serum sickness, in which experimental evidence was available to explain their causation.

Further familiarity with the phenomena of anaphylaxis, however, soon brought this

agency under suspicion of being the cause of other acute symptom complexes, notably asthma.

A consideration of the symptoms and course of some of the more fulminating drug idiosyncrasies, such as acute quinism, acute iodism, and the dermic manifestations of antipyrin hypersensitiveness, could not but call to mind the close analogy existing between them and the phenomena of anaphylaxis.

The books have very little to say about fulminating acute iodism, by which I mean an intense reaction with frontal headache, congestion of the conjunctivae, severe coryza, painful gums, salivation, fever and sleeplessness, which occur in typical cases after so small a single dose as three grains of potassium iodide. These cases are passed over, or receive but brief notice. The attention of pharmacologic authors is concentrated on the commoner chronic and subacute forms of iodism.

If we are to accept as a working hypothesis the anaphylactic origin of these reactions, we must, in the present state of our knowledge, provisionally postulate not direct hypersensitiveness to the drug, but the presence in the body of proteins capable of being split up under the influence of such drugs, yielding decomposition products against which the organism has not time to elaborate antibodies.

Such an explanation, though admittedly theoretical, rings truer than any of the others that have been put forward by pharmacologists.

In the issue of Paris Medical for August 25, last, Drs. Heran and Saint Girons report a case of acute quinism which they have successfully treated, in accordance with the indications furnished by the anaphylactic theory of the etiology of that idiosyncrasy. Complete intolerance of quinine, in medicinal doses, was converted into perfect tolerance by the preliminary administration of a minute quantity one-half hour before the main dose.

We have here an observation which, if confirmed, may prove an invaluable indication for the forestalling of the distressing and sometimes dangerous acute reactions to quinine and the iodides.—(*Editorial, Interstate Medical Journal. October*, 1917.)

Vomiting in Infancy.

Dr. J. Sebilleau, in *Revue Pratique d'Obstet*, Paris, describes the different causes for habitual vomiting in a nursling, stating that treatment can be only tentative at first until it is learned whether overfeeding or underfeeding is responsible for the vomiting or other causes are involved. He has found very valuable a tablespoonful of a 1.7 per cent. solution of sodium citrate added to each feeding or given the child before it is put to the breast. His experience with it confirms the assertions made by American and English writers in regard to its efficacy.—(*Jour. Med. Soc. of N. J.*)

Tuberculosis in the Army.

Col. George E. Bushnell, Medical Corps, United States Army, discusses the diagnosis of tuberculosis in the military service, in the August number of the *American Review of Tuberculosis*. The diagnosis of tuberculosis especially in the "incipient" stage, is at present in an unsettled state. In the military practice this may be said to be a matter of even greater importance than in civil life since it is just as important to know when tuberculosis does not exist as to make the diagnosis when the disease is present. The present situation is furthermore one of peculiar difficulty for the civilian examiner accustomed to accept the statements of patients at their face value; inasmuch as men knowing or suspecting that they have tuberculosis may be anxious to volunteer, while others may attempt to avoid enforced service by false statements as to their physical condition. Examinations must be confined to objective facts, to physical diagnosis. All that can be demanded is that cases of well marked manifest tuberculosis shall be detected. There is need of a standard to prevent unnecessary rejections, guide the hurried examiner and relieve him from the responsibility of decision and to render justice to all applicants by giving uniform and equal treatment at all recruiting stations. A full discussion of the significance of the various physical findings follows and the findings in different forms of tuberculosis are given at length. He advises against the use of tuberculin in examinations for enlistment. The proper use of X-ray examination for doubtful cases is gone into.

All that is absolutely necessary is to determine the presence of a tuberculous lesion of

sufficient size and activity to constitute a cause for rejection, and this can be very well done in a few minutes or less. Doubtful cases should be studied with greater care. He concludes the paper with a detailed account of his rapid method of physical diagnosis and a summary of topical variations of normal signs.—(*Am. Rev. Tub.*, 1917, i, 6.)

Experiences in Reconstruction Surgery of the Extremities.

In the September *International Clinics*, Wayne Babcock calls attention to the needless sacrifice which is often made of extremities, especially the hands, which can be restored to a fair degree of usefulness by conservative surgery. The article is very profusely illustrated. He goes into considerable detail in showing how a badly injured limb may be saved, either partially or completely. The article which does not lend itself readily to condensation, should be consulted by all interested in surgery. It is especially valuable for those entering the military service, where many of the problems it deals with will be encountered frequently.

Cause and Treatment of Constipation in Infants and Young Children.

In discussing this subject in the *International Clinics*, G. G. Grulee summarizes his views as follows: "I would like to urge that catharsis be abandoned as a routine treatment; to ask that the simple rules of diet be insisted upon, and that when these are not sufficiently effective, such mechanial factors as glycerin suppositories and paraffin oil be resorted to and that only in extreme cases of acute constipation a cathartic be used."

Polycythemia.

An interesting clinical lecture of a case of polycythemia, by Arthur F. Beifeld, is reproduced in the *International Clinics* for September. He deals with the differential diagnosis between polycythemia and other conditions associated with an increase in the number of red blood corpuscles, such as Osler-Vaquez's disease and Geisbock's disease or polycythemia hypertonia. The treatment of polycythemia is largely symptomatic. For this purpose venesection is the most efficient agent. In Beifeld's case the blood pressure fell from 220 m.m. systolic and 130 diastolic, to 170 m.m. systolic and 100 diastolic. In addition, the red cells fell from 9,600.00 to 8,400.00, and the haemoglobin from 115 to 105 per cent. The venesection must be repeated from time to time.

Correspondence.

Anent "Indictment of the Potato as Being the Exciting Cause of Poliomyelitis."

Cumberland, Md., November 17, 1917.

To the Editor: In the *Semi-Monthly*, under date of October 26, 1917, Dr. L. J. Simonton has an article entitled, "Indictment of the Potato as Being the Exciting Cause of Poliomyelitis."

Mention is made regarding the incidence of this disease in Cumberland and Allegany County, Maryland, during the years 1916 and 1917, and I merely wish to present accurate figures so that there will be no misunderstanding.

In 1916 there were eight cases of poliomyelitis reported in Allegany County and five cases in Cumberland. These five cases were as follows:

Case 1, age 26 months, reported July 15th, (came here from Clarksburg, W. Va.);
Case 2, age 8 years, reported Sept. 1st;
Case 3, age 5 years, reported Oct. 28th;
Case 4, age 35 years, reported Oct. 28th;
Case 5, age 9 years, reported Oct 28th.

The latter three cases were all in one family.

In 1917, up to November 1st, there were reported thirty-eight cases in Allegany County and two cases in Cumberland. The two cases are as follows:

Case 1, age 6 years, reported July 27th;
Case 2, age 3 years, reported Aug. 17th.

Summarizing the cases, they are as follows:

1916, Allegany County, 8 cases; Cumberland 5 cases.

1917, Allegany County, 38 cases; Cumberland, 2 cases. (10 months).

These figures are not presented for the purpose of refuting in any manner the "indictment" brought by Dr. Simonton, but merely because proper deductions cannot be made without accurate figures.

Max J. Colton,
Health Officer.

Editorial.

Greetings:

Christmas Greetings and Best Wishes for the New Year to Each of our Readers.

May the Needs of the Red Cross not be Overlooked at this Season.

"Virginia Medical Monthly" Once Again—Beginning Next Issue.

After nearly twenty-two years as a semi-monthly, this journal will return to a *monthly* publication with its next issue, effective January, 1918. This change was only recently decided upon, after careful consideration, the reasons for which will be stated in an announcement in the January number.

The journal will remain the size of the *Semi-Monthly*, though we expect to have some additional reading pages. The annual subscription price will remain the same. We will not anticipate the announcement to be made by further note at this time.

Neurological Studies at Camp Lee.

The enormous expense entailed in equipping and transporting an army for foreign service has caused the government to take unprecedented steps in the selection of soldiers. As it is authoritatively stated that it costs approximately $7,000 per capita, it is imperative that each man be mentally as well as physically fit. It is obvious therefore that the mentally defective, dementia praecox, psychasthenic, and all others who may likely develop neuropathic tendencies, under the strain of military activities, should be eliminated as early as possible, or at least be transferred to some non-combatant service.

Such studies have been in progress at Camp Lee for several months, and it is gratifying to know that definite results have been accomplished.

On Friday, December 7th, by invitation of Lt. Col. T. L. Rhoads, a group of neurologists and others interested in this phase of the work had the privilege of attending a meeting at the Camp, where the report of their investigations was made.

In the early afternoon, the physicians were the guests of Col. Hunt, who demonstrated the different types of drills, bayonet charges, trench warfare, and other interesting military activities. The earnestness with which his companies performed their tasks was strikingly noticeable in every manœuvre.

At four o'clock, we were placed in charge of Major Moore, who took us, after a brief visit to the hospital wards, to the department where the psychological investigations were being made. Contrary to expectations, the announcement was made by Lieut. Hunter that the standard test questions for general intelligence would be given to the physicians in order that they might more fully appreciate the records of the Camp. It was a most unusual experience, and while it may have brought to the surface some hidden defects, it certainly demonstrated the importance of such studies in the selection of our soldiers. As explained by Lieut. Hunter, such tests have two objects. It is important that no company be overbalanced by an excess of low grade mentalities, and it is no less imperative that the officer in charge should have a record of the highest and lowest types in his command. These tests were compiled as a result of a conference of psychologists and were selected for the purpose of rating mental efficiency in its broadest interpretation.

The examinations are given to entire companies at one sitting, thereby making it possible to grade relatively large numbers in a short space of time. The questions are made out on a printed pamphlet consisting of about twenty pages. Each man is given a pamphlet and pencil and is instructed to follow the explicit directions of the examiner. The questions cover a broad field of inquiry, such as taking dictation of numbers up to nine digits, transposing words to make sentences, solving mathematical problems, detecting absurdities, etc. The time element figures very largely in the result, and proves to be the stumbling block in several of the queries. In fact, the elements of judgment and reasoning ability seem to be secondary to the question of speed.

The illiterates and others who fall below a certain average are given mechanical tests which consist entirely of performance requirements, such as putting together locks, etc. If there is evidence of their mechanical ability lacking, special examinations with the Terman tests are given.

The results are carefully recorded, and a

form sheet giving the rating of each soldier in the company is made out and placed in the hands of the officer. Such information is of inestimable value, for obvious reasons, and will unquestionably serve as a basis for promotions.

The primary object of these studies is to determine the lower mental age limit for an effective soldier. At present, the mental age of seven years has been arbitrarily selected below which all candidates are given an honorable discharge. Those having an age above seven years but below nine years, are placed in a service battalion. Thus far, 33,000 men have been examined at Camp Lee, one per cent. of whom were found below the nine year limit. A number of interesting graphs were shown, illustrating various phases of the subject. For instance, the intelligence rating bore a direct ratio to the previous earning capacity up to twenty-seven years of age. Beyond that point, fluctuations appeared. The rating likewise was relatively higher before the age of forty than subsequently, although comparatively few had been examined above that age. The colored troops were definitely lower in their general average, and the darker skins showed an inferior intelligence to their light skin brothers.

Much can be said in discussion of the methods used in these investigations, as well as their deductions. Generally speaking, group testing has not proved satisfactory in civilian life for several reasons, an enumeration of which would not be apropos at this time.

There is usually a tendency to allow mental age ratings to take precedence over all other factors in the estimation of an individual's efficiency. Should this custom, which the writer has found prevalent in civilian life, prevail in military circles, one can readily imagine conditions under which injustice would be done. So long as liberal allowances are made for the evaluation of mental efficiency, and the results are supplemented by practical observations, these studies will prove invaluable.

The evening session was conducted by Major Moore and his associates. A dozen or more patients were exhibited, illustrating various types of psychopathic personalities. Major Moore's discussion and analysis of the psychasthenic reactions were intensely interesting, and reflected credit upon his department.

It is to be hoped that studies of this character will go far towards eliminating the unfortunate groups of shell shock and other nervous breakdowns which have appeared in alarming numbers in the armies of our allies.

Wm. H. Higgins, M. D.

The Southside Virginia Medical Association

Held its last quarterly meeting for 1917 in Petersburg, December 11, Dr. Joel Crawford, Yale, the president, in the chair. An address of welcome was delivered by Mayor Robert Gilliam. After some preliminary exercises, recess was taken for an automobile trip to Camp Lee, where the members and invited guests were shown through the camp by Capt. Beebe, of the medical staff. This was a most instructive and interesting feature of the entertainment. Upon the return to Petersburg, the literary program in the form of several papers and a number of talks of a medico-military nature was enjoyed. An elaborate dinner was tendered the members and guests at 7 o'clock, at the Petersburg Hotel, which proved to be not only "The feast of reason," but something which appealed very materially to the inner man. The meeting was pronounced one of the most notable and thoroughly enjoyable in the history of the Association. Several of the medical officers from Camp Lee participated in the program.

The election of officers, which followed the dinner, resulted as follows: President, Dr. P. A. Irving, Farmville; vice-presidents, Drs. D. L. Harrell, Suffolk; F. N. Mallory, Lawrenceville; Wm. B. Daniel, Disputanta, and Arthur Hooks, Blackstone; secretary-treasurer, Dr. R. L. Raiford, Sedley, who succeeds Dr. E. F. Reese, Courtland, who had held the office for a number of years, but would not allow his name to come up for re-election; executive committee, Drs. H. M. Snead, South Hill; F. J. Wright, Petersburg, and Geo. S. Fultz, Butterworth.

War Prices Depriving Babies of Milk.

Decreases reported from New York and Chicago and New England cities in the amount of milk now being consumed by families with young children have led the Federal Children's Bureau to emphasize its imperative necessity in the diet of babies and young children. There is no food which can supply as well the needs of the growing child.

Since the price of milk went up to 14 cents a quart, tea and coffee have been substituted for milk by more than half of the 2,200 families—all with children under six—included in the study of the effect of the increased price of milk just made in New York City. One hundred and twenty families have stopped taking milk entirely, in 25 of these there are babies under one year old. All of the 2,200 families have young children, but nearly half are taking from one-fourth to one-half less milk than before the price went up, at which time they were getting but little more than half the amount of milk which experts on children's diets say they need.

Similar conditions obtained in other cities. In Chicago, a dealer reports that while he distributed on an average 4,000 quarts of milk a day in September, on October 3, with the price increased, he distributed only 2,500 quarts.

In commenting on this subject, the Health Department of Norfolk, Va., recognizing that there can hardly be a reduction in the cost of milk as long as the present war conditions last, due to scarcity and high cost of feed and labor, makes the following suggestion, which is worthy of consideration:

The supply to hotels and restaurants might be curtailed without detriment, as the large majority of people in these places take milk as a beverage pure and simple, when other foods might be substituted for it. This would leave a larger quantity for children and the sick, and, the demand being lessened, a reduction in price is possible.

Further, they state that while bottled milk is ordinarily a safer and cleaner milk, bottling milk is very expensive, and clean, safe milk *can* be dispensed from clean cans into clean pitchers (which should immediately be put on ice). "Loose milk" can be sold directly to the customer who sends for his milk much cheaper than bottled milk can be delivered by the distributor, and it can be done safely if proper precautions are taken by dealer and consumer.

Southern Medical Association.

The eleventh annual meeting of this Association was held in Memphis, Tenn., November 12-15, Dr. Duncan Eve, of Nashville, presiding. There was a registered attendance of 1,314 members. A number of military medical men were present and war medicine and surgery came in for much interesting discussion, besides the varied subjects which furnished something of interest for all in attendance. On account of the war, the large entertainments were limited to the reception and dance, given in honor of the retiring president, although the ladies were entertained while the doctors were devoting themselves to the business side of the program. There was a net gain in membership of 288, and the treasury showed a small surplus. Asheville, N. C., was selected for the next place of meeting.

Officers elected for that meeting are: President, Dr. Llewellys F. Barker, Baltimore; vice-presidents, Drs. William H. Deaderick, Hot Springs, Ark.; T. C. Holloway, Hazard, Ky., secretary-treasurer, Dr. Seale Harris, Birmingham, Ala.; acting secretary, Dr. J. R. Garber, Birmingham; editor of the *Southern Medical Journal*, Dr. M. Y. Dabney. These last two appointments were made following a resolution that Maj. Seale Harris be not allowed to resign, but be allowed a leave of absence during the term of the war. Dr. Henry H. Martin, Savannah, Ga., was made chairman of the executive council.

Several smaller medical associations held meetings at some time during the dates of the Southern Medical Association.

The Southern States Association of Railway Surgeons

Held their annual meeting in Memphis, November 14, and elected Dr. I. W. Cooper, Meridian, Miss., president; Dr. Wm. A. Chapman, Cedartown, Ga., vice-president, and Dr. Ambrose McCoy, Jackson, Tenn., secretary.

The Southern Women's Medical Association,

Also meeting in Memphis during the meeting of the Southern Medical Association, elected the following officers: President, Dr. M. Louise Strobel, Washington, D. C.; vice-presidents, Drs. Elizabeth C. Kane, Memphis, and Olive A. C. Wilson, Paragould, Ark.; secretary-treasurer, Dr. L. Rosa H. Gantt, Spartanburg, S. C.

The Southern Gastro-Enterological Association,

At its annual meeting in Memphis, the middle of November, elected Dr. J. C. Johnson,

Atlanta, Ga., president; Dr. J. T. Rogers, Savannah, Ga., vice-president, and re-elected Dr. Marvin H. Smith, Jacksonville, Fla., secretary-treasurer.

Dr. and Mrs. Robert C. Bryan,

Of this city, have been enjoying a visit to relatives in Maryland and later in Atlantic City.

Dr. Bryan, who was sent as a member of the Red Cross mission to Roumania, last spring, recently returned by way of Russia, Siberia and Vancouver. He speaks of conditions in both Roumania and Russia as deplorable. Typhus fever has made great ravages among military and civilian population in Roumania. Hygiene and sanitation are improving in Roumania, although the situation is still acute. There are 60,000 hospital cots in Moldavia. Whereas, in America there are seven physicians for every thousand soldiers and in Germany four, Roumania has only one for this number, and there is only one cot for every four soldiers. The country is receiving only a small part of the supplies sent from America, because of internal conditions in Russia, and the fact that the Russians hold either end of the battle front with the Roumanian army in the center. Dr. Bryan stated that he did not see a drunken man or one that appeared to be under the influence of liquor in all of his journey through Russia to Roumania or on his return through Siberia. Vodka, the national drink, cannot be bought. The absolute absence of intoxicating liquors in the midst of rioting and civil bloodshed he thought remarkable.

Dr. William B. Porter,

Of this city, who is now stationed at Camp Sevier, near Greenville, S. C., has recently been given the rank of captain in recognition of his excellent work in the Medical Officers' Reserve Corps.

The Richmond Academy of Medicine and Surgery,

At its annual meeting, December 11, elected the following officers for the ensuing year: President, Dr. Thomas W. Murrell; vice-presidents, Drs. W. S. Beazley, George C. Woodson and Ramon D. Garcin; secretary, Dr. Mark W. Peyser, re-elected for the twenty-fifth time; assistant secretary, Dr. E. H. Terrell; treasurer, Dr. Howard Urbach; librarian, Dr. G. Paul LaRoque, and members elected to the judiciary committee, Drs. H. H. Levy, A. L. Gray, Beverley R. Tucker, McGuire Newton and John N. Upshur.

Dr. E. W. Young Wounded.

It was announced December 12, that 1st Lt. E. W. Young, of McKenney, Va., who joined the medical officers' reserve corps shortly after war was declared on Germany, and who has been attached to the British forces since August, had been severely wounded in action. No further details were given, but recently Dr. Young informed us that he was temporarily serving with British forces and was then at the Great Eastern Military Hospital, at Harwich, England. He was one of the Seaboard Air Line Railway surgeons and is well known in his section of the state.

Health of German Army and Navy Better.

According to German medical journals, health statistics of the Germany army and navy show that the percentage of illness among both soldiers and sailors is steadily decreasing. In the army, the number of cases of illness is now about 20 per cent. lower than in the first year of the war, and in the navy, the number of cases of illness per thousand is about 25 per cent. lower than in peace time.

There are more patients in the naval hospitals on account of disease of the organs of nutrition than from any other single cause, but even the number of these cases has fallen from 78 per 1,000 in peace times to 56. Tuberculosis shows a slight increase, but other diseases of the respiratory organs have decreased very largely. Nervous diseases have decreased slightly, diphtheria has almost disappeared, and scarlet fever shows a slight increase.

Dr. S. S. Guerrant,

Callaway, Va., was elected one of the vice-presidents of the Virginia State Horticultural Society, at its annual meeting in Harrisonburg, early this month.

Dr. Truman A. Parker Not a "Deader."

Dr. Parker, formerly of this State, but for the past few years a resident of La Jolla, Cal.,

in a letter to us a few days ago, states that he was somewhat surprised to learn recently from Dr. Horace Lazelle, Seattle, Wash., that announcement had been made of his death. Both Drs. Parker and Lazelle attended the former University College of Medicine, in this city. On a visit to Seattle, in the summer, Dr. Lazelle expressed to Dr. Parker his regret at learning of his demise and tried to prove to him that he had "passed over" by showing him that he was listed as dead in *The Cerebrum*, the publication of the Pi Mu fraternity.

To keep from causing his friends unnecessary sorrow, Dr. Parker wishes us to correct this impression and says that he not only is *not* dead, but really is not considered as a "dead one" where he lives, which he says is the most delightful spot outside of the old home state. To prove his assertion, he asks us to say that if any of his friends get out that way in their wanderings in these days and times, he would be glad for them to look him up. He is located near Camp Kearney, North Island, Coronado, and other Army and Navy stations.

Children's Dispensary Opened at Evian.

A report from Evian, France, announces the American Red Cross opened a children's dispensary recently, in the garage of the old Hotel Chatelet, now the American Children's Hospital. The Evian hospital was opened ten days earlier with seventy beds and is already over-crowded with diphtheria, measles, scarlet fever and whooping cough cases.

The American doctors twice daily examine an average of 250 children arriving from behind the German lines and send contagious cases to the American hospital. Every contagious case thus stopped may mean an epidemic prevented somewhere in France. An American dentist has opened a dental dispensary in the old kitchen with a dental chair improvised from a wine barrel. In the first week of the American dispensary at Evian, over 2,400 children were examined, more than 1,900 being between the ages of three and thirteen years.

Belgian and French officials have repeatedly expressed their gratitude to the American Red Cross for the splendid work it is doing in hospital care of sick children.

But the good work is not being done in France alone. When the emergency arose in Italy, many carloads with supplies of mattresses, sheets, pillow cases, hospital clothes, blankets, ether, sweaters, socks and other clothing, were shipped to Italy, and condensed milk was distributed to many children and sick people. Twenty-three ambulances and necessary personnel, with experience on the French front were sent by road from Paris. Contracts have been let for fifty additional ambulances, the plan being to increase the total number of American Red Cross ambulances with the Italian army to 200.

Dr. L. T. Stoneburner,

Richmond, addressed the Woman's Study Club of Highland Springs, near this city, on the afternoon of December 5, the subject of his talk being "Health."

Dr. Loyd Simpson,

Until recently of Lowes, Ky., is now located at Milburn, Ky.

Control of Venereal Disease in Rochester.

Dr. George W. Goler, health officer of Rochester, N. Y., at the American Public Health Association, explained a unique way of keeping venereal disease patients under dispensary treatment. Regular, periodic visits are to be made at the Health Department's clinic by each patient. Upon leaving, he is told when he is expected again and if he fails to appear, a written notice is sent to his house stating that unless he presents himself immediately for further advice and treatment, he will be arrested. In this event, he is taken before the local police court and committed to the local health officer for an indefinite time.

Dr. A. M. Brent

Has returned to his home at Heathsville, Va., after a visit to Baltimore.

Dr. and Mrs. John O. Boyd,

Roanoke, Va., recently visited relatives in Winchester, Va.

Dr. H. W. Dew,

Lynchburg, Va., who recently underwent an operation at a Richmond hospital, is spending

the month of December recuperating in Wytheville, Va.

Dr. James W. Kelly,

Big Stone Gap, Va., took a business trip to Louisville and Cincinnati, early this month.

Free Sanitation Course.

To equip its own sanitary inspectors and those of Virginia cities and towns for the larger responsibilities placed upon them by the war, the State Board of Health will open a brief winter course for sanitary inspectors, whether doctors or not, on December 27, in this city. No charge will be made for instruction, which will continue approximately three weeks, but of course those in attendance will have to meet their living expenses while here. Those interested may communicate with Dr. Ennion G. Williams, State Health Commissioner, Richmond, Va.

Prevention of disease alone can decrease the need for the services of physicians during the shortage of doctors, especially in rural districts, owing to the number who have volunteered for governmental service. Those taking the course given sanitary inspectors should be prepared to aid materially in educating the people in their respective communities. Also, principles in the prevention of disease have been summed up in the war-time manual of the State Board of Health, styled the "Public Health Catechism." This pamphlet of 32 pages, profusely illustrated, and covering practically all the usual communicable diseases, may be had free upon request of the above named Department.

Dr. Wallace Blanton,

Who was the recent guest of his parents, Dr. and Mrs. C. A. Blanton, of this city, left for New York early in December, where he will be connected with the work of St. Luke's Hospital. Dr. Blanton has just returned from France, having worked for several months in a Red Cross hospital in Paris.

Doctors on Committee.

The following doctors have been appointed members of the committee in this city, to aid in the prosecution of the thrift stamp and war savings stamp campaign in Richmond: Drs. Stuart McGuire, Roshier W. Miller, Mark W. Peyser, and William H. Parker.

Major Junius F. Lynch,

Of Norfolk, Va., who was attached at the headquarters of the division surgeon at Camp McClellan, Anniston, Ala., for several months, and later with the 104th train headquarters and military police, has been transferred to Newport News, Va., for duty.

Dr. Lee O. Vaughan,

Waverly, Va., was recommended to be district deputy grand master at the regular meeting of Astrea Lodge, A. F. and A. M., in his town, this month.

Dr. R. Ovid Rogers,

Formerly of Waverly, Va., and later of Crystal, W. Va., is reported as now being with the medical corps in France.

The National Board of Medical Examiners

Is to hold another examination at Bellevue Hospital, New York City, January 9-17, 1918. The holder of a certificate from this Board is eligible to a commission in the Medical Corps of either the Army or Navy without further mental examination. Twelve states now recognize the certificate of this board for licensure and others are expected do so shortly. For further information, write the secretary, Dr. J. S. Rodman, Philadelphia.

Dr. Bittle C. Keister,

Who spent last winter in Savannah, Ga., has resumed his practice in Roanoke, Va., in which place he has made his home for eighteen years, and will devote his attention mainly to office and consultation practice along the line of general and internal medicine.

Health Service Will Have Charge of Chesapeake Bay Quarantine.

As a result of negotiations between the city of Baltimore, Md., and Surgeon-General Blue, of the U. S. Public Health Service, within the next six months, the Health Service will take over the quarantine service of that port, thus having quarantine charge of the entire Chesapeake Bay. Baltimore will then be on the same quarantine basis as Norfolk, Va. The government pledges itself to give $1,760,000 for Baltimore's quarantine station and equipment.

Elks Present Hospital to Government.

America's first great hospital for the reconstruction of wounded men was accepted by the government early this month, from the Benevolent and Protective Order of Elks. The hospital buildings will be erected in Boston, at a cost of $250,000, which was taken from the Elks' $1,000,000 war relief fund. In these reclamation hospitals, every device and resource known to science is at hand to rebuild nearly every part of the human frame. Those who cannot be fully restored for service will be rebuilt as far as possible and taught trades that will make them economic assets instead of liabilities.

Dr. Loren E. Cockrell

Has returned to his home, Reedville, Va., after a visit to this city.

Dr. George C. Callaway,

Of Norwood, Va., was a visitor in Lynchburg, Va., early this month.

Drs. Driver and Burke.

Dr. Wilson E. Driver and Dr. Antonio A. Burke, of Norfolk, Va., announce the formation of a partnership, and have offices in the Tazewell Building.

Dr. and Mrs. W. A. Pinkerton,

Bayonne, N. J., visited relatives in this state last month.

Dr. Ennion G. Williams,

Richmond, State Health Commissioner of Virginia, with Drs. Emerson and Reynolds, of New York, called upon President Wilson, December 17, to make a report on health conditions in army camps which they have investigated.

Physicians for Woodmen of the World.

At the annual meeting of Maple Camp, No. 159, Woodmen of the World, South Richmond, the following doctors were elected physicians to the camp: Drs. T. D. Jones, E. G. Hill, M. P. Rucker and R. E. Mitchell.

Dr. George H. Thomas,

Of Romney, W. Va., we are advised, has moved to Staunton, Va.

Physician Wanted—Among the many places in this State that have sent out calls for physicians is Spotsylvania C. H., about 12½ miles from Fredericksburg. The former doctor, who has entered the U. S. Army, is said to have been doing a cash business which amounted to several thousand dollars. Any one interested might write Dr. W. J. Chewning, Fredericksburg, Va., who was asked by the citizens there to help find them a good man.

Obituary Record.

Dr. William Edward Harwood,

An honored citizen and beloved physician of Petersburg, Va., died suddenly at his home, December 11. He was born in Petersburg, September 10, 1847, and had spent all his life there. At the age of 16, he enlisted in Company B, Fourth Battalion, Virginia Reserves, and in the battle of Rives' farm, near Petersburg, lost his right arm. At the close of the war, he returned to his studies, later taking up medicine, in which he graduated from the Medical College of Virginia, Richmond, in 1873. In 1879, he was chosen to represent Petersburg in the State Legislature. Dr. Harwood was long an officer and leading member of the A. P. Hill Camp of Confederate Veterans, in Petersburg, and had also served as grand commander of the Grand Camp of Confederate Veterans of Virginia.

Dr. Harwood was twice married and is survived by his second wife and three children, one of them Dr. John M. Harwood, an interne at Memorial Hospital, Richmond.

Surgeon R. Bland Williams,

U. S. Navy, committed suicide by a shot through the brain in a hotel in Norfolk, Va., on the night of December 3. Despondency over his physical condition is believed to have been the cause. He was recently relieved from duty on a hospital ship and sent to Norfolk for treatment. He left home a day prior to the shooting and, his family becoming concerned over his failure to return, instituted search which resulted in the finding of his body. He was about forty years of age, prominent in the service, and is survived by his wife and two children who reside in Norfolk.

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Original Communications.

CANCER OF THE BREAST WITH REPORT OF CASES.*

By J. SHELTON HORSLEY, M. D., Richmond, Va.

Cancer of the breast is a field that has shown the gratifying results of surgical attack on a grave type of malignant tumors. This success is based upon a technic founded on a careful study of the anatomy and pathology of the tistues involved. If such a technic is properly carried out, the chief hope for improvement in cures depends upon the early recognition of the disease.

One cannot fail to be impressed by comparing modern statistics of operations for cancer of the breast with those of the pre-antiseptic era, not only as regards the percentage of cures (that is, patients without sign of recurrence three years after operation), but also the immediate operative mortality. The late Dr. Agnew, one of the greatest surgeons in America in his day, advised amputation of the breast for carcinoma, though he said that he did not know of a case that had been cured by this operation and he thought the operation probably shortened the patient's life. His advice was given because he believed the temporary relief from worry, pain and discomfort caused by the ulcerating breast was worth the sacrifice, though the prospects of cure were *nil* and the operative mortality was great. The immediate operative mortality, for instance, in a series of amputations of the breast reported by Billroth from 1867-1875 ("The Breast: Its Anomalies, Its Diseases, and their Treatment," Deaver and McFarland, p. 547), was 23.1 per cent. Today the operative mortality in careful hands is about the same as from early operations for acute appendicitis and varies from a fraction of one to five or six per cent. Rodman collected a series of 2,133 cases operated upon in recent years, by twenty-one different American surgeons with a primary mortality of less than one per cent. Infections and erysipelas were the greatest causes for operative death in the pre-antiseptic era. Careful asepsis and strict regard for conservation of blood have been the chief factors in reducing the operative mortality, but the increase in the percentage of cures has been even more striking. This is due to the study of the pathology and of the manner of growth and dissemination of cancers of the breast. From practically nothing in the estimate of Agnew, the cures have risen to from twenty to forty-five per cent.

No two groups of statistics of cancer of the breast are gathered in exactly the same way. In most instances all the patients cannot be traced and in all probability many of those who have not been heard from have died. This gives a larger per cent. of cures among those traced than really should exist. Then, not infrequently, there are border-line cases in which one pathologist pronounces the growth malignant and another says it is benign, so we may have a small per cent. of cases classed as cancer in one clinic and as benign in another. This group, though small, is sufficient to change the number of cures considerably. Another source of difference in statistics is the community from which the cases are drawn. In some communi-

*Read before the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917.

ties where there has been manifest interest in cancer and the patients' report to the physicians promptly, and where the physicians are alive to the subject, cases are often secured in a very early stage. In other communities where the sentiment is conservative and where it is difficult to arouse interest in cancer, a growth will go unsuspected for a long time and reaches the surgeon in an advanced stage, and here the percentage of cures is exceedingly small.

Undoubtedly, many growths of the breast, even in women who have passed thirty-five years of age, are benign and if a radical operation is done in each case where there is a lump in the breast of a woman past thirty-five years of age, there will be unnecessary mutilation. On the other hand, if the patient or the physician waits until the diagnosis is obvious, valuable time will have been lost. A surgeon who stands conservatively in his diagnosis of cancer of the breast, and who does not work up the pathology of these cases, will sooner or later reach a case that he thinks is benign and that is really malignant. After one or two such cases have slipped through his hands he is likely to take an ultra-radical stand. If one is to make a mistake it is best to err on the side of the radical operation, but the whole science of treating malignant tumors surgically consists in planning the operation to meet the condition and in not blindly performing a radical operation on the slightest provocation. One surgeon in a recent article on lumps in the breast says "all lumps in the breast are potentially, if not actually malignant, and the breast should be sacrificed and the axilla cleaned out regardless of sentimental consideration as to diagnosis and the loss of the breast." On the other hand, we find a number of surgeons who not only disagree with this view, but refuse to operate until the diagnosis of cancer is plain. The midway stand between these two extremes seems desirable and every lump in the breast should be seriously considered at once without waiting until a positive diagnosis is obvious.

Many of the classifications of cancer of the breast have been unnecessary, as two types will cover all the cases. In one we have the ordinary cancer that springs from the acini and in the other we have the adeno-carcinoma or duct cancer. Sarcoma, which is rare in comparison with carcinoma, is not included in this list. Duct cancer or adeno-carcinoma is of a very much milder grade of malignancy than the type that arises from the acini. The other, and by far the more common, type may grow rapidly, when it is called by some "medullary cancer," or slowly, when it is termed "scirrhus." Both are essentially the same, only in one there is less resistance to cancer than in the other. An excellent and simple classification of all epithelial hyperplasias of the breast is that by MacCarty, of the Mayo Clinic (*Surg., Gyn., & Obst.*, 1914, Vol. XVIII, pages 284 to 289). He divides them into the first, second and third degrees. In the first degree there are two or more rows of cells in the acini but the inner row is well differentiated and developed. In the second degree of hyperplasia there are several rows and all of them are of the younger type of cells not differentiated, but the basement membrane is intact. In the third degree, the cells are as in the second degree except that the basement membrane has been penetrated. All of the first degree are benign, all of the third degree are malignant, and in the second degree there are some benign and some malignant.

The diagnosis of cancer of the breast is easy if there is no hope for the patient, but it is often quite difficult in the early stages. The earlier the case, the more difficult the diagnosis, but at the same time the more important it is for the patient to be operated upon then. This rule is as plain as possible and yet it is frequently violated. The first thing to bear in mind is that *cancer is not painful in the early stages.* Most of the laity and many physicians have an idea that cancer is a horribly painful affection. Unless it presses upon some nerve or interferes materially with function, the early stage of cancer everywhere is painless. In fact, a benign tumor of the breast is more likely to cause pain than is cancer in its early stage. Naturally, after ulceration has set in with secondary infection or pressure upon the nerves, pain begins, but operation is often too late then. It would save the lives of hundreds of women every year if ulceration, retraction of the nipple and glandular involvement could be eliminated from the text-books as symptoms of mammary cancer. They are only too often terminal stages, and should no more be put down as symptoms of early cancer than should coma be given as an early symptom of nephritis or gangrene as a symptom of diabetes. How, then, can we diagnose

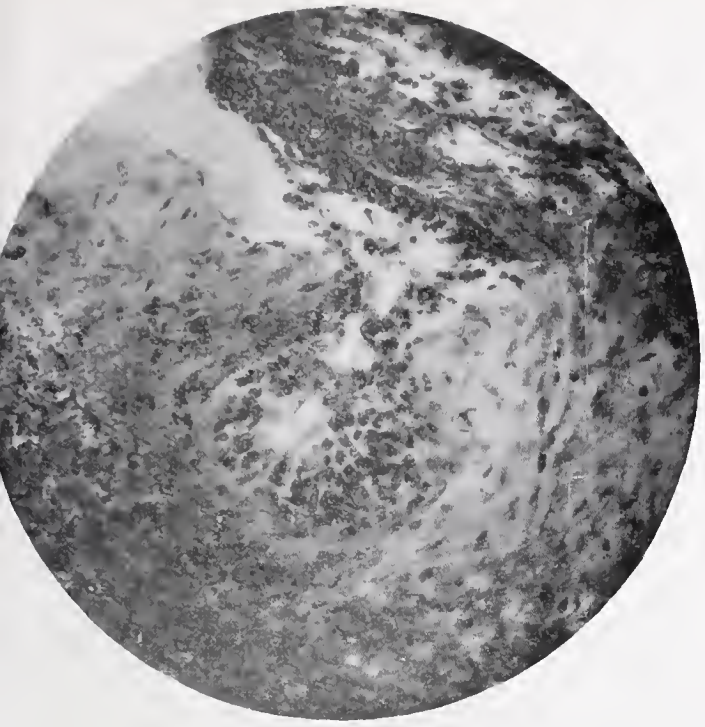


Figure 1. Photomicrograph of a pre-cancerous or early cancerous stage of an acinus of the breast. At one point in the acinus the basement membrane has been broken through by cells which are piled up several layers deep, while the rest of the acinus is apparently normal. X 250.

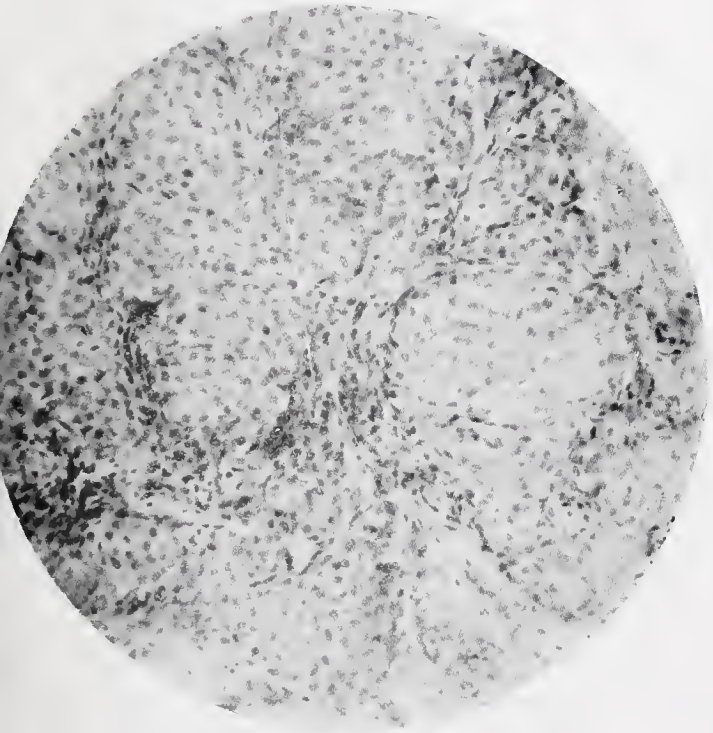


Figure 2. (Mrs. B.)—Photomicrograph of a very cellular cancer of the breast. X 200. At present, 11 months after operation, there is no sign of recurrence. Photograph of this patient is shown in Figure 15.

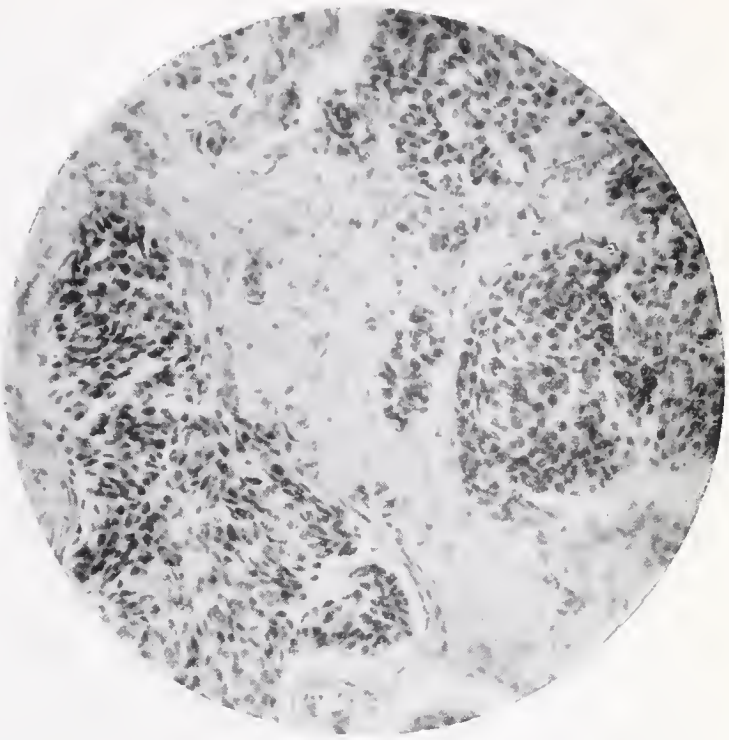


Figure 3. (Miss S.)—Photomicrograph of cancer of the right breast. X 200. Moderately cellular. No recurrence 2 years and 5 months after operation.

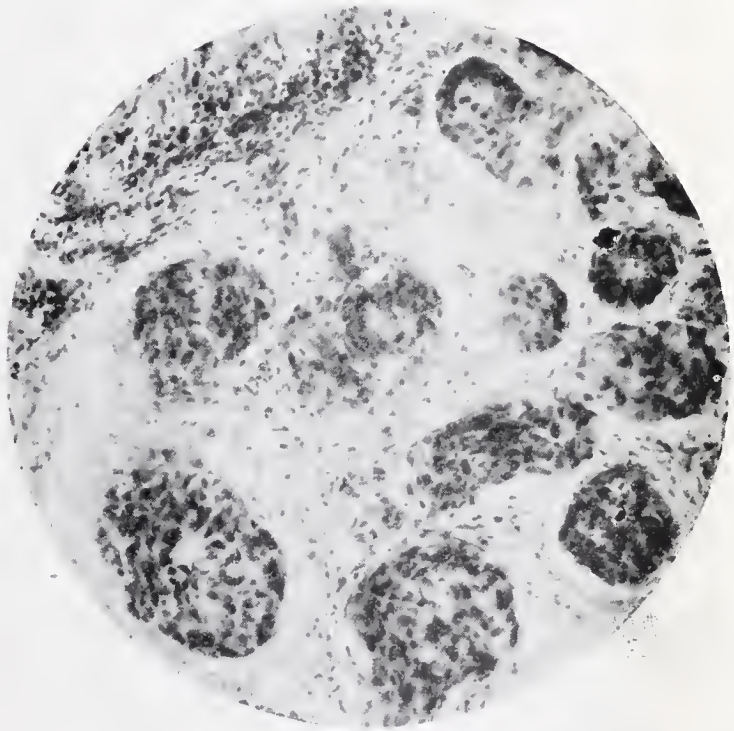


Figure 4. (Mrs. J. C. B.)—Photomicrograph of cancer of right breast showing typical structure of tissue removed at first operation. X 200. While the acini and ducts are filled with undifferentiated cells, the basement membrane appears intact. There was a recurrence soon after the first incomplete operation and the patient died of cancer of the mediastinum and liver about one year after a radical operation.

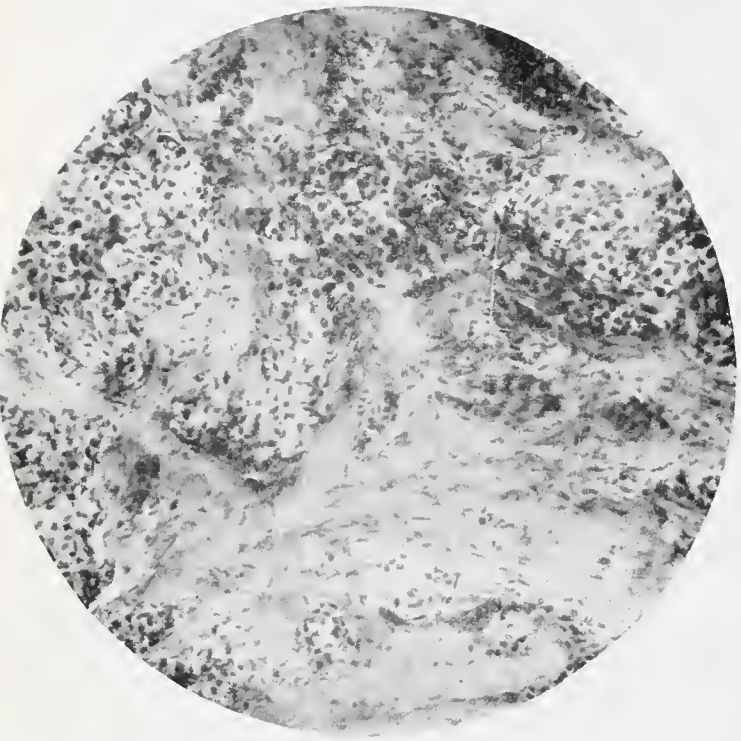


Figure 5. (Miss X.)—Photomicrograph of cancer of the breast. X 125. This shows a cancer of moderate malignancy, apparently not as virulent as the sections shown in Figures 2, 3 and 4. The lump in the breast was massaged for three months before the patient came to the surgeon. Death occurred without local recurrence from cancer of the liver and peritoneum, about three months after operation.

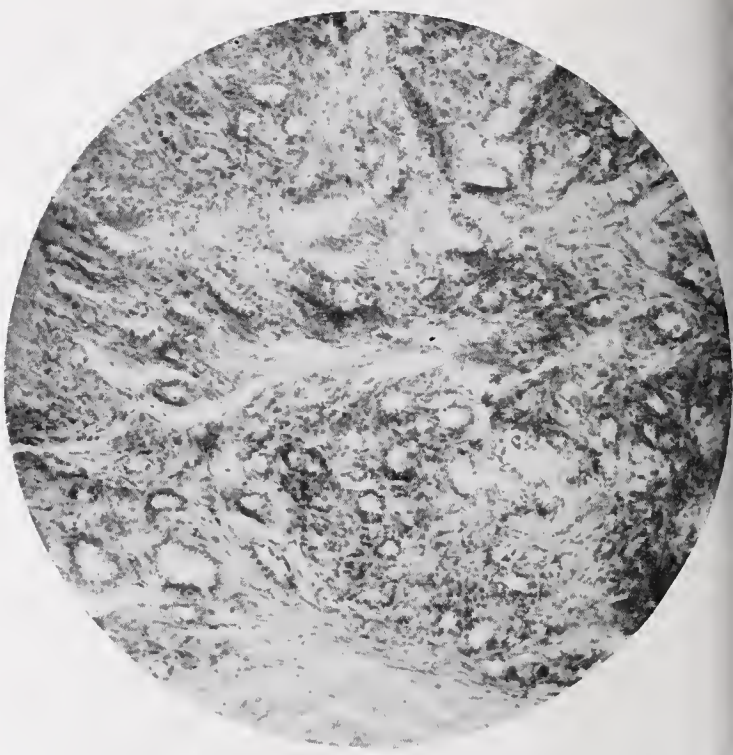


Figure 7. (Miss B.)—Photomicrograph of left breast, showing typical adeno-carcinoma. X 125. This is not a very malignant type of cancer and complete excision of the mammary gland is usually all that is necessary.

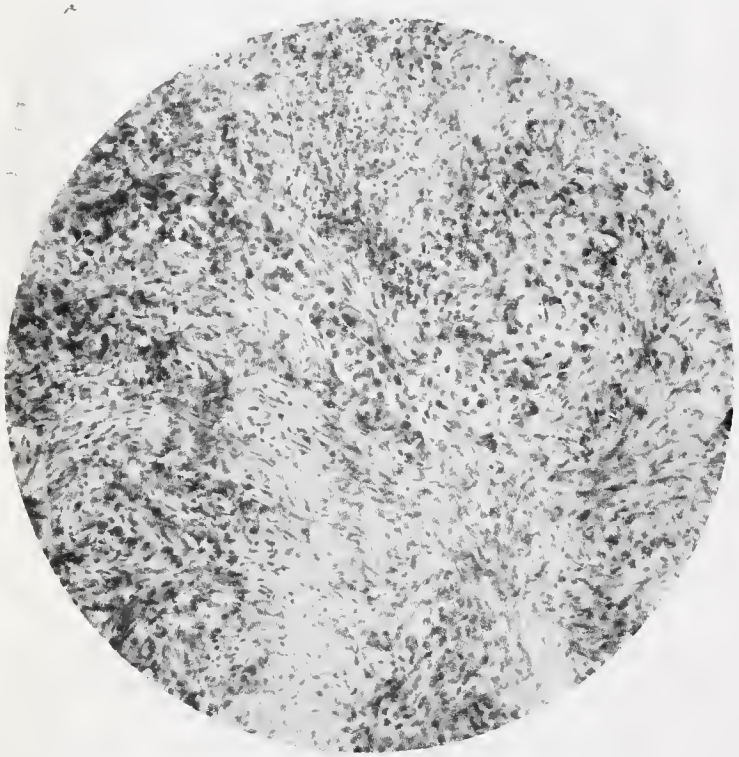


Figure 6. Photomicrograph of metastasis in axillary gland from same specimen as Figure 5.

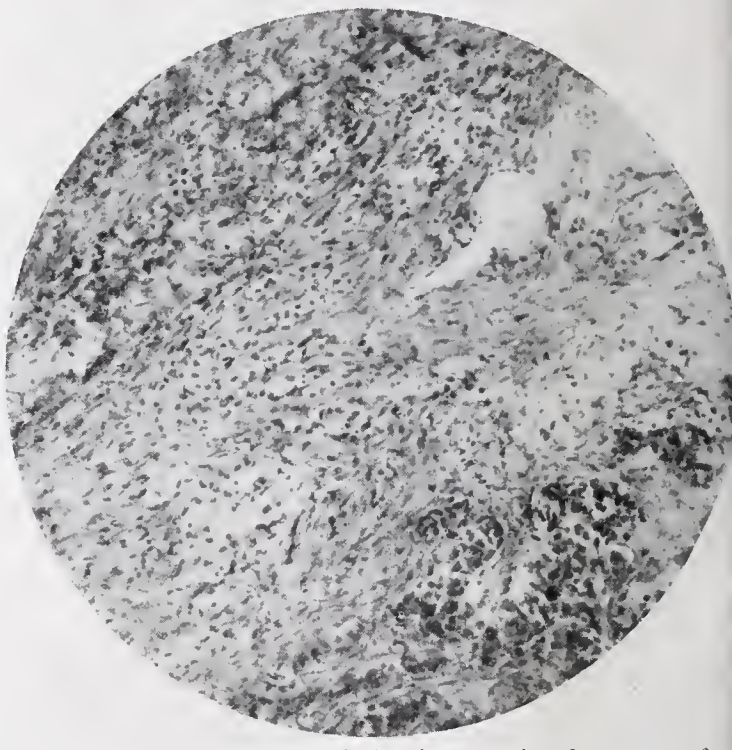


Figure 9. (Mrs. H.)—Photomicrograph of cancer of the breast. X 125. Photograph of patient is shown in Figure 8.

cancer of the breat in its beginning stage?

There is no one positive symptom by which we can tell early cancer anywhere, and this is true of cancer of the breast, but we may build up the evidence and make the case so strong as to suggest a probable diagnosis. The typical early cancer of the breast occurs in a woman past thirty-five years of age and begins as a single lump without pain. Usually there is a limitation of motion if it be observed carefully. The skin may not move freely over the growth or the lump itself does not move freely in the glandular tissue, though there is always some motion. Picking up the skin over the tumor sometimes shows points of attachment to the skin. The affected breast often does not hang as low as the unaffected breast. These symptoms, if present, are amply sufficient to justify immediate action. Such a case should be operated upon as soon as possible. If the surgeon is in reasonable doubt, the patient should be prepared for a radical operation, and after the anesthetic has been administered an incision should be made in the growth. As a rule, inspection and palpation will then determine the diagnosis. Cancer usually feels hard, and it has no capsule to retract when incised as a benign tumor has. (Figures 10 and 11). If there is still some doubt, a frozen section should be made and reported upon at once. This will not take longer than ten or fifteen minutes. The incision should be thoroughly cauterized immediately after taking the sections and, if the report shows that the growth is cancer, a radical operation is proceeded with at once. If it is not cancer, a local operation can be done.

No tumor of the breast that is even suspicious of cancer should ever be incised unless preparations have been made for immediately following the incision by radical operation. Many lives have been sacrificed by taking a piece from a growth in the breast and sending it away to a pathologist for diagnosis. The statistics from Johns Hopkins Hospital show that no case operated upon there for cancer of the breast has ever recovered if the growth has been previously incised for diagnostic purposes and the operation postponed for more than a day. Because cancer cells are invisible to the naked eye they are even more dangerous than pus germs would be, and surely we would not expect to have pus smeared over a freshly opened wound for a day and have the wound remain free from infection. If this is true of pus, it is even more true of cancer, and in this way growth is often hastened and, by means of the incision, gains access to lymphatic channels that it could not reach in months by natural growth. If the surgeon who does the operation has been sufficiently trained in pathology to interpret the frozen section, he is enabled to understand the situation better than if he had to depend solely upon the report of a pathologist.

A small minority of cancers of the breast, however, do not follow the type just described. It is unusual for multiple growths in the breast to be cancerous, but it does sometimes occur. I have seen one case of multiple growths with pain and without retraction that was cancerous. This is a great exception and should be regarded somewhat in the same light as left-sided pain being a symptom of appendicitis in the rare instances when the appendix is misplaced on that side. But this possibility should be borne in mind.

There is only one treatment for cancer of the breast that gives reasonable satisfactory results and that is radical operation. The radical breast operations of Halsted and of Meyer were based upon the principle of block dissection which is now adopted wherever it is practical in all operations for cancer. This was shown to be necessary when it was found that in a continuation of a growth from the primary cancer, the cancer cells are transported by means of lymphatic channels. The fascia and fat beneath the skin are rich in lymphatic channels. The fascia over the pectoral muscles also contains many lymphatics and this fascia dips down in between the bundles of muscle fibres in such a way as to make it impossible to remove this fascia entirely without removing the muscle. Metastases in the pectoral muscle, while not common, have been reported by competent observers. The logical basis, then, for the first radical operations was that the breast, over-lying skin, muscle, fascia and axillary contents should be removed in one mass, because if they were cut through cancer cells might be spilled into the wound and transplantation of cancer result.

Later, Mr. Sampson Handley, of London, showed that while cancer cells were carried along the main lymphatic trunk, they also spread or permeate in a radiating manner along small lymphatic channels in the sub-cu-

ticular fat and fascia. He demonstrated that in most instances the lymphatics near the original neoplasm were obliterated by the irritation of the cancer cells that had passed through them, but that at one or more inches from the original growth the lymphatics were often found blocked with these cells. This introduced a new principle for operation and showed that it was not necessary to take out quite so much skin but it was essential to make a more extensive undermining dissection that would include in one block a much larger mass of sub-cuticular fat and fascia, the limit of which would be at least several inches from the primary growth. It is on this principle that the Rodman operation was based.

In the Rodman operation a vertical incision is made from the clavicle over the pectoral muscle to the lower margin of the breast. This

Fig 8. (Mrs. H.)—Photograph of cancer of the breast. Photomicrograph of a section of the specimen from this patient taken after the operation is shown in Figure 9.

should run about two fingers breadth from the upper arm when it is at the side. This incision is retracted and the pectoral major and minor muscles divided. The axilla is then carefully dissected out, leaving the posterior thoracic nerve which supplies the serratus magnus muscle, and the middle or long subscapular nerve which supplies the latissimus dorsi muscle. With a careful dissection, these nerves can be left without impairing the chances of cure. If they are involved in the cancerous mass, the case is clearly inoperable from a radical standpoint. They run on the posterior aspects of the axillary wall and not through the contents of the axilla. During the dissection, which should be as bloodless as possible, we frequently flush out the wound with salt solution to remove any cancer cells that may have been dropped from the lymphatics. The dissection of the axilla should come up to the clavicle, but does not extend as far down on the arm as recommended in the Halsted operation, for if the axillary space is cleaned out, metastasis does not occur down the arm. Two other incisions are then made, one from the lowest extremity of the vertical incision down to a point about half way between the navel and the ensiform cartilage, and another, beginning about the middle of the vertical incision, partly encircles the breast and forms a sharp angle at the point of termination of the second incision, between the ensiform cartilage and the navel. (Figure 12). The skin is then widely undermined and dissected back so as to include as much as possible of

Figure 10. Photograph of a benign tumor of the breast (periductal fibroma), incised. Note retraction of the capsule and bulging of the tumor as though it had been under considerable pressure.

the subcuticular fat and fascia. This, at the same time, loosens the skin and makes an easier subsequent closure of the wound. The mass is then dissected out as a whole, going from above downward, and including the fascia of the recti muscles as shown in the illustration. (Figure 14). Handley and others have shown that metastases from cancer of the breast practically always follow the lymphatics and not the blood stream, and that involvement of the liver after cancer of the breast usually comes through the deep lymphatics and the round ligament; consequently, removal of the fascia of the recti muscles and fat around the ensiform cartilage takes away the tissues by which the cancer cells may travel to the

liver and peritoneum. The wound is closed by suturing without leaving any raw surface. The patient has use of the arm within a few days after operation, and within a week can put the hand to the back of the head. In many types of operation where the scar runs through the axilla or down the arm and the posterior thoracic and middle sub-scapular nerves are not preserved, the patient is never able to do up the back hair with that arm, whereas, after the Rodman type there is al-

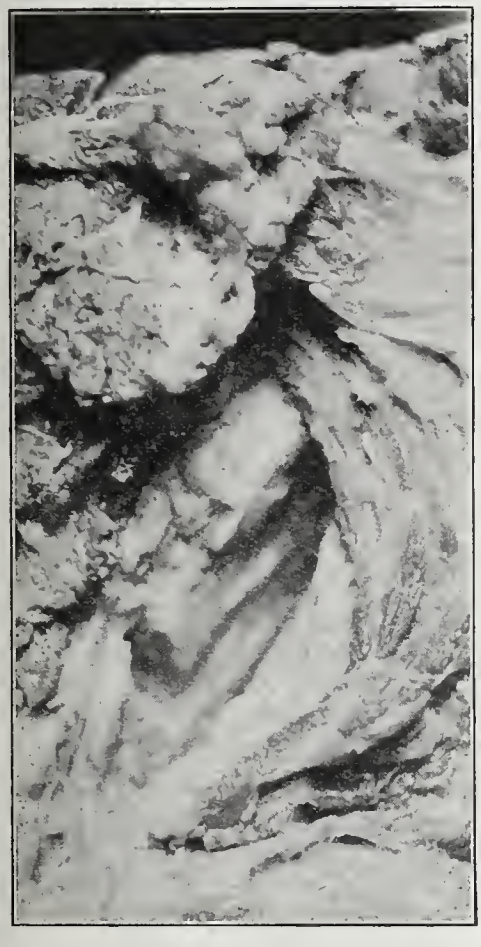


Figure 11. Photograph of cancer of the breast incised. Note absence of capsule and of bulging as in Figure 10. The tissue lies open like a piece of cheese when cut into.

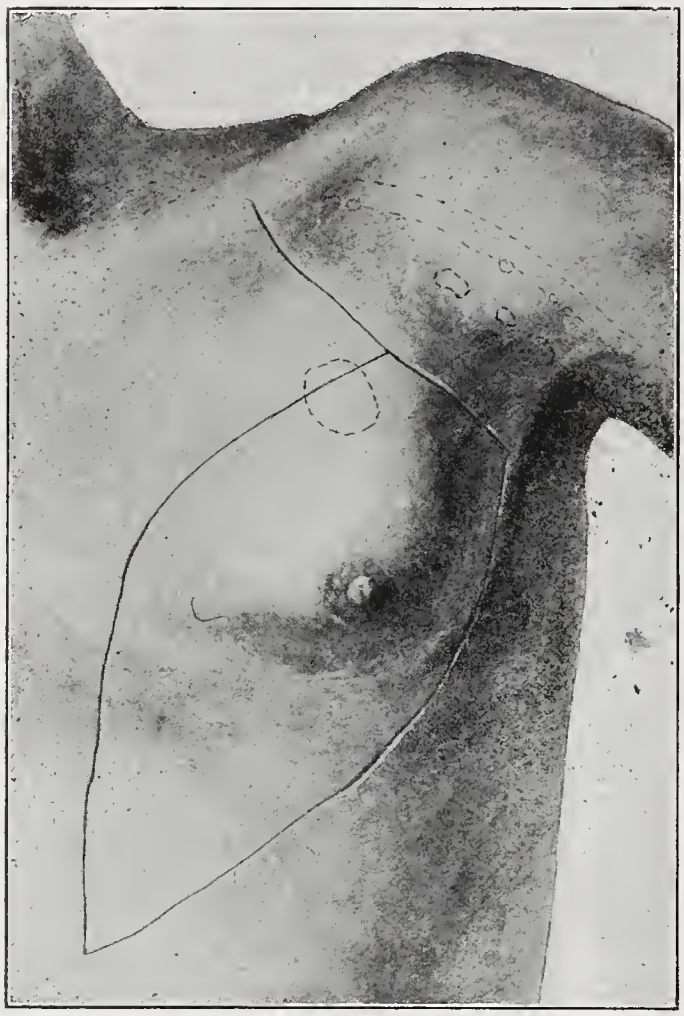
most no disability within three weeks after the operation.

A series of thirty-three cases is herewith reported. This series comprises all the operations done for cancer of the breast at St. Elizabeth's Hospital, Richmond, Va., since the hospital opened, February 14, 1912, to September 1, 1917. The accompanying table shows the essential features. (Figure 16). During that time two cases have been operated upon elsewhere than at St. Elizabeth's Hospital, but as the operating conditions were different and as it was not always possible to check up satisfactorily the pathological findings, this report comprises only those operations done at St. Elizabeth's Hospital. This series, too, does not include two patients on whom radical breast operations were done elsewhere, but who were operated on for recurrence at St. Elizabeth's. There are microscopic slides on record of every case except one. In some way this slide has been misplaced, although sections were taken, but the patient died from metastases more than two years after operation, so there is no doubt about the diagnosis. All of the thirty-three cases have been traced. Grouped according to the time that has elapsed since the operation, this report shows that of eleven patients operated upon from three to five and a half years ago, four are now alive and well without recurrence; of thirteen operated upon from one to three years ago, ten are well; and of nine operated upon less than one year ago, five are well. Three patients died of intercurrent diseases, one three months after operation, of pneumonia, another two years and five months after operation, of nephritis, and the third died suddenly of myocarditis, about two months after operation. In letters from the doctors who attended these patients in their last illnesses, the doctors report that there was no sign of recurrence. During the early period of this series radical operation according to a modified type of Jackson operation was done, but since May, 1914, the Rodman operation has been adopted. The Rodman operation appealed to me as not only extirpating the growth and surrounding tissues more satisfactorily, and as giving a larger number of cures than other operations, but also because there was quicker healing and better function.

Of the thirty-three cases in this series, ten were operated upon by the Jackson method, twenty-two by the Rodman method, and in one case (an adeno-carcinoma of low degree of malignancy, Figure 7), subcuticular excision of the entire mammary gland was done. General anesthesia was used in all cases, by inhalation, sixteen times, and by rectum (Gwathmey method), seventeen times. The latter method is very satisfactory, particularly when a frozen section is to be taken.

Many of the patients in this series were in advanced stages of cancer and operation was undertaken with but little hope of permanent cure. It was felt, however, that when we could

not find or demonstrate metastases outside of the breast or axilla, the patient should be given the slight chance for cure, even though it was



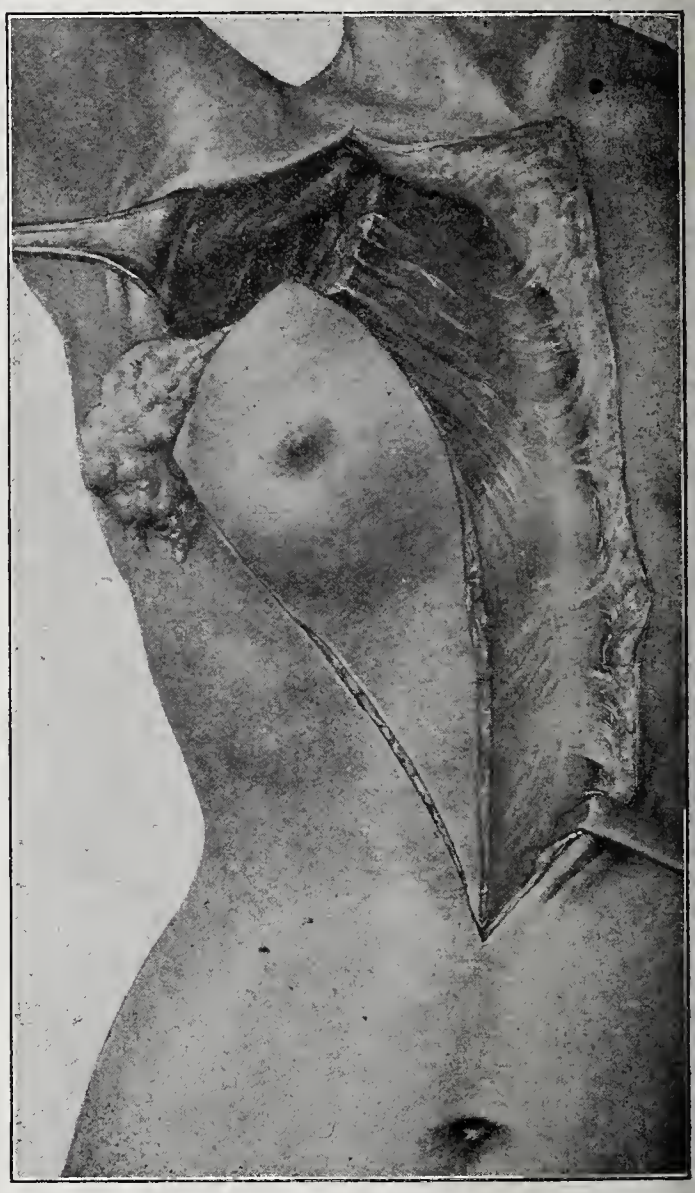
Drawn by Helen Lorraine, '17.

Figure 12. Rodman operation for Cancer of the Breast. The incisions in the Rodman operation for cancer of the breast. There is also indicated in this figure the primary growth and some of the small shotty glands in the case of Miss X. (Figs. 6 and 7), in which massage had been done before operation.

probable metastases existed.

Naturally, the test of the efficacy of a radical operation is the number of local recurrences. Recurrences elsewhere are the result of cancer cells that were implanted in that region when the patient was operated upon, but gave no sign or symptom and could not then be recognized. In advanced cases it is possible that outside the area of operation there are many nests of cancer cells giving no symptoms. Operations in such cases result in relief of the local condition and of the offensive ulceration and tend, in this way, to make the remainder of the life of the patient more comfortable than it could otherwise be, even if a cure is not obtained. Figure 8 shows a patient seventy-two years old who knew she had had a growth in the breast for over two years and consulted her family physician only two days before he sent her to me. This patient died three months after the operation. The mediastinum, the supra-clavicular region and the axilla showed metastases a few weeks before death, though the scar itself was free from disease. The growth was beginning to break down when she came and there was marked axillary involvement. Several advanced cases, however, have been apparently cured.

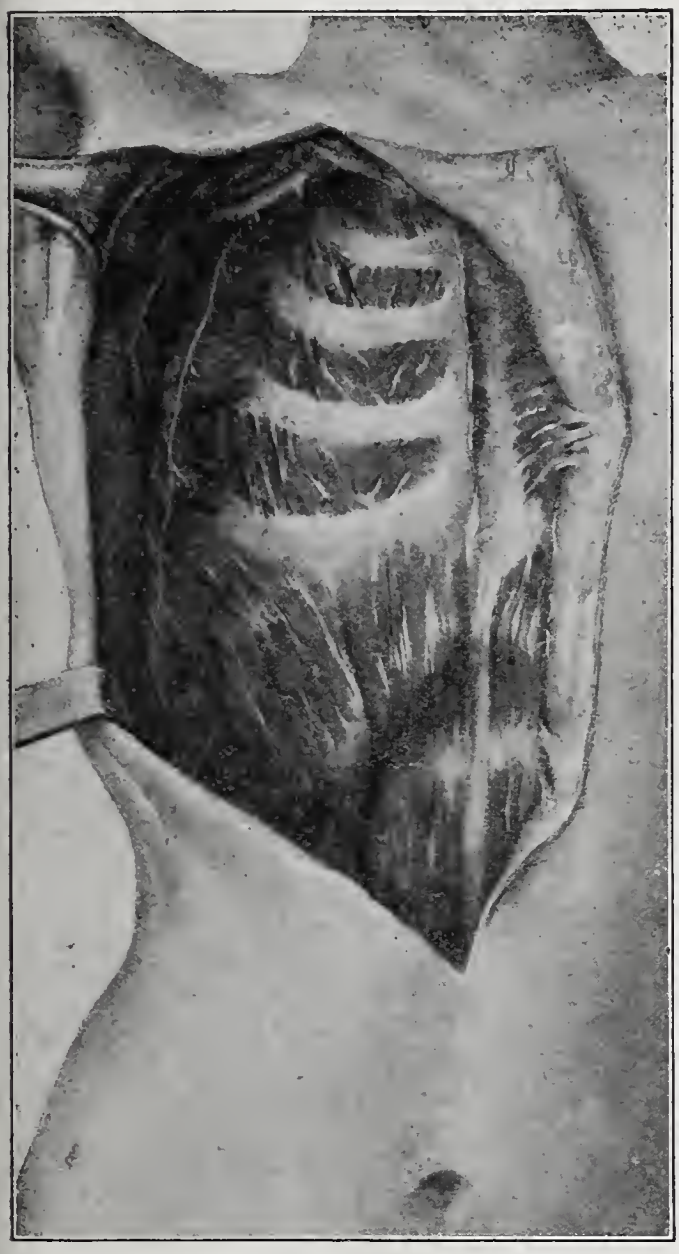
Another patient, already referred to, is the only case of cancer in the series with several growths in the breast and accompanied by



Drawn by Helen Lorraine, '17.

Figure 13. Rodman Operation. The axilla has been cleaned out. The pectoral muscles have been cut across. The other incisions have been made and undermining has begun under the inner incision.

some pain. A portion of the breast was removed by a Warren operation and an examination of the most suspicious tissue showed a



Drawn by Helen Lorraine, '17.

Figure 14. Rodman Operation. The whole mass of axillary contents, breast and subcuticular fat and fascia, has been removed in one piece. The fascia over the recti muscles and tissue around the ensiform cartilage have been included in the mass. The middle subscapular and the posterior thoracic nerves have been left intact.

condition that would correspond with MacCarty's secondary hyperplasia. The cells in no instance were differentiated and yet the basement membrane was intact. This patient had a recurrence and a radical operation was done seven months after the primary operation. There was no local recurrence after the radical operation but she died of metastases in the liver and mediastinum about one year later. The photomicrograph, Figure 4, is typical of the tissue removed at the first operation and might allow a diagnosis of a benign growth. Frequently, in the so-called chronic cystic mastitis, the ducts are filled with cells of this type. This does not necessarily mean that such a case is cancer, but in my judgment, if the microscope shows that the majority of the ducts and acini in the affected region are filled with cells of this type, the case may be considered cancer, while if less than half are filled it may reasonably be treated as benign. The rapid recurrence after operation in such an atypical case as the one mentioned, emphasizes again that the greatest care should be exercised in the diagnosis in such cases. A radical operation when the first partial operation was done might have saved the patient's life.

Another impressive tragedy was the case of Miss X., aged forty-seven. She noticed a single painless lump in her breast and reported to her family physician, who ordered massage, a treatment that was continued for three or four months before she fell into my hands. When I saw her the original growth was not more than an inch in diameter, and the skin

Figure 15. (Mrs. B.)—This photograph shows the scar resulting from operation and the ability of the patient to elevate the arm on the side operated upon to the same extent as on the other side. Photomicrograph of specimen from this patient was shown in Figure 2.

was not broken down, but the axilla was full of small shotty glands, the type that is most ominous of all. A radical operation was followed by satisfactory healing and while there was no local recurrence, the patient died of ascites with symptoms of carcinoma of the liver and peritoneum, three months after the operation. The microscopic examination of the tissue of the breast did not show an unusually virulent type of malignancy (Figure 5), and it is only reasonable to suppose that the massage continued over a period of several months was responsible for the rapid metastases.

In this series of cancer of the breast cases, there was no operative mortality, and the percentage of those who are well with no recurrence for several years after operation, many of them well advanced with cancer when operated upon, gives us every reason to hope that even better results can be obtained if the cases will come earlier and if the family physician will act promptly with every patient who is examined by him when he finds a lump in the breast. This should, under no conditions, be massaged or treated locally, especially if it is painless, unless the physician can be certain that there is no cancer. He must remember that if he is in doubt and local treatment and massage is applied, he is promoting the growth of a possible cancer and rapidly taking away from the patient whatever chance a radical operation might offer. Worse even than this is cutting into the growth and sending a section away for examination. If the diagnosis is in doubt, the patient should be at once prepared for a radical operation and the surgeon should determine the diagnosis while the patient is under the anesthetic and operate accordingly.

A Report of 33 Cases of Cancer of the Breast Operated Upon at St. Elizabeth's Hospital, Richmond, Va., from the Opening of the Hospital, February 12, 1912, to September 1, 1917.

	Dead From Causes Other than Cancer.	Living	Died With Local Recurrence	Died With Recurrence Elsewhere	Died With Recurrence Local and Elsewhere	Living With Recurrence
11 patients operated upon between Feb., 1912, and Sept. 1, 1914. (3 to 5½ yrs.)	2 One 3 mos. after op. (pneumonia). One 2 yrs and 5 mos. after op. (nephritis)	4 (44%) living without recurrence.	2 1 and 1¼ yrs. after op.	3 From 1 yr. to 4 yrs. after op.		
13 patients operated upon between Sept. 1, 1914, and Sept. 1, 1916. (1 to 3 yrs.)		10 (77%) living without recurrence.		3 About 1½ yrs. after op.		
9 patients operated upon between Sept. 1, 1916, and Sept. 1, 1917. (Under 1 yr.)	1 1 mo. and 3 wks. after op. (myocarditis)	5 (62½%)		1 3 mos. after op.	1 3 mos. after op.	1 Not local. (Op. 5½ mos. ago)
33	3	19 (63%)*	2	7	1	1

There have been 10 deaths from recurrences, 9 (90%) within 1½ years of operation, and one 4 years after operation.

There were no deaths from operation.

There has been only one local recurrence since using the Rodman operation, May 6, 1914.

Of the 33 operations done, there were 10 Jacksons, 1 subcuticular amputation and 22 Rodmans.

Rectal anesthesia was used in 17 cases.

*This percentage was obtained by subtracting the number of intercurrent deaths from the total number of cases and using the remaining 30 cases as a basis.

Fig. 16. Table.

QUARANTINABLE DISEASES.*

By S. B. GRUBBS, M. D., Newport News, Va.
Surgeon, U. S. Public Health Service.

All eyes are now focused on shipping, and Hampton Roads, as a port, is rapidly increasing in importance. I thought, therefore, it would be appropriate to say something about the serious epidemic diseases and the methods of modern maritime quarantine to exclude them from this country. These diseases, like the fighting in the present war, may seem a long way off, and that separated from them by a protecting ocean we have little to fear, but I can assure you that the danger is very real, and that the greatest vigilance is necessary.

During the last session, Congress appropriated half a million dollars for increased quarantine facilities on the Atlantic Coast, and of this $223,000 is for Hampton Roads. $143,000 is for construction on Craney Island, where plans call for six new barracks, a hospital, a sterilizing building, a power house, office and surgeon's quarters, in addition to those now there. This will allow the detention of 1,490 passengers at one time. The balance of the appropriation will be used for equipment and fumigating machinery.

The United States quarantine regulations mention six diseases which, on account of the terrible ravages they have made in the past, must be excluded from our shores at all cost. These diseases are plague, cholera, typhus fever, yellow fever, smallpox and leprosy. Leprosy is a chronic affection and smallpox is always present here and there in this country, on account of our laxity in vaccination. Plague, cholera, typhus fever and yellow fever, however, are diseases with awful records of death and misery that must be held away if possible and throttled promptly if discovered within our territory.

It is interesting to go back twenty years and compare our efforts and our methods against these diseases then and now, especially so with yellow fever which has until recent years menaced the lives and prosperity of the Southern States. Twenty years ago yellow fever was feared above all other diseases. Towns were abandoned, trade was interrupted and panic followed even the rumors of its presence. Quarantine restrictions against yellow fever twenty years ago were strict, but in spite of them the disease would from time to time gain access to our Southern ports and spread steadily until frozen out in the fall. This was not always due to lack of zeal or to carelessness, as I can testify.

I was in Havana when we took possession of that city on January 1, 1899. Havana had for years been one of the pest holes of the world and one of the first tasks before us was to get rid of yellow jack. A general clean-up of the city was carried out in a most thorough manner, regardless of expense or protests. Houses, sidewalks and streets were all alike scrubbed, scoured and disinfected, until at times the smell of chlorine suggested stories of a modern gas attack. Yet, after all that, I saw over fifty cases of yellow fever at one time and during 1899 and 1900 there were nearly four hundred yellow fever deaths occurring in Havana, the clean and spotless. While this was going on, the quarantine service, in its conscientious efforts to protect the Southern States, was disinfecting every ship, every piece of baggage and even every letter and parcel leaving the island. In the twenty-four hours preceding the sailing of the Saturday steamer, several large lighter loads of trunks and hand baggage had to be each unpacked, the contents sterilized by steam, and repacked. Those who are appalled at the prospect of packing one trunk may wonder how we did this. It was a difficult task, but I may explain that all disinfected baggage was delivered on board the steamer with orders that nothing should be opened until well out at sea. This was to prevent the supposedly pestilential air from entering the now germ-free trunks, but it also served the very real purpose of saving us from the vengence of the owners, for, while we were as careful as possible, our men could not always repack as skillfully as a lady's maid.

All this laborious and expensive work on land and sea seemed to have little effect upon yellow fever, because the time, effort and money were expended on cleaning and general sanitation instead of being concentrated on the weakest point of the particular disease in question.

As soon as all efforts were directed against the mosquito and nothing else, the disease stopped, not only in Havana, but elsewhere, and the Central American coast changed from poverty and misery to opulence and beauty.

*Read before the twenty-second annual meeting of the Seaboard Medical Association of Virginia and North Carolina, at Norfolk, Va., December 4-6, 1917.

This is a good example of the neeessity of finding the weak link in the connecting chain between the infecting person and the person infeeted by him and concentrating our strength to break that link.

Clean or dirty, beautiful or ugly, matters little in stopping disease; it is the line of disease eommunication that must be cut. This applies to the common communicable diseases in our cities as well as to yellow fever and plague, and money appropriated for the prevention of disease should not be wasted for eleaning, however desirable that may be.

Eaeh of the so-called quarantinable diseases has a weak spot where we concentrate our efforts. With cholera it is the human carrier; with yellow fever, typhus fever and plague it is the insect carrier, for these three most destructive of all epidemic diseases are dependent absolutely eaeh upon a different insect to carry its germs from the sick to the well.

Cholera, like typhoid fever, is an intestinal disease and is spread by infected body discharges. As the symptoms of cholera are severe, a patient on an arriving vessel is easily discovered and may be isolated from those he may infect. Others, however, who are apparently well, may carry the germs and give the disease to those about them. "That the healthy human being may for months or years carry organisms which work disaster to his more susceptible neighbor has long since been confirmed," not only for eholera but for other diseases. These so-called "carriers" of cholera are the greatest dangers, as they show no signs by which they may be detected unless we call to our aid the bacteriological laboratory and the microscope. Where cholera has occurred on a vessel or the passengers come from a cholera infected district, all hands must be examined in order that no carrier may pass, to spread the disease to those on shore. Every well equipped quarantine station, therefore, must have a laboratory for eholera examinations, and the personnel of such station must be trained in the special methols by which a thousand or more of sueh examinations may be made within twenty-four hours.

Yellow fever is transmitted by one species of mosquito, the Aedes calopus, and modern quarantine endeavors to discover the siek, destroy any mosquitoes on shipboard, and hold susceptible persons six days, as symptoms of this disease will appear in that time or not at all. Fortunately, mosquitoes are quiekly affected by eertain gases, especially sulphur dioxide or hydrocyanic acid gas.

The present day yellow fever quarantine does not delay shipping unduly or annoy travel, but it is reasonably effective. If the disease ever again invades this country it will meet a quick defeat. It may be confidently asserted that the problem of yellow fever has been solved, and we may hope with Carter that the disease may be made to disappear entirely and forever.

Typhus fever and bubonic plague are aristoerats amongst the scourges of mankind, if we are to judge them by the length of their record, by the history they have made, and by the slaughter they have caused. In all the ages during which they have left their cruel marks upon mankind, no intelligent or effective defense has ever been carried out against them until the twentieth eentury, and the distinction between the two diseases has been confused down to comparatively modern times, even by medical writers. This was natural, for not only is there a resemblance in the symptoms whieh prevented most ancient writers from clearly differentiating the two, but they have frequently occurred in one and the same epidemic. We understand this now, as both diseases are transmitted by vermin, the body louse being the immediate agent in the propagation of typhus fever and the rat flea in the propagation of the other.

Typhus fever was distinguished as a distinct disease by Frascatorius as early as 1546, but it was not so generally recognized in Europe until the eighteenth century. It is entirely different as to symptoms and method of spread from typhoid fever, which unfortunately was named from its supposed resemblance to the older and then better known disease. Typhus was doubtless the epidemic disease described by Thucydides. It was probably the plague mentioned by Plutareh as causing the death of Pericles, and it can be traeed eontinuously through lay and medical literature. "During the thirty years' war the whole of Central Europe was devastated by famine and typhus. They were rampant in the wake of Napoleon's armies, and thousands perished by typhus in the retreat from Moseow. In the Crimea typhus decimated the ill-fed army of the French," and during our Civil War the disease was common—at least in the prisons.

At present, despite modern hygiene, typhus fever has been widely spread in areas where invasion has been followed by famine and misery among the civil population, while revolution has greatly increased it in Mexico, in which country the disease has long existed.

The officers at our maritime quarantine stations must be constantly on the alert for typhus fever. Besides careful inspection to detect sickness, it may be necessary, even when all are well, to clean the persons and clothing of all passengers from infected districts in order to make them lice free. To do this, it is necessary to handle rapidly large numbers of ignorant and suspicious persons in whose lives bathing has been seldom considered necessary. Special apparatus is necessary to destroy vermin in clothing and baggage. For this purpose we have the choice of steam, dry heat and the lethal gases. The steam and dry heat methods require unpacking and repacking of baggage. Steam leaves the clothes damp; dry heat causes injury. Of the gases, hydrocyanic acid gas is ideal as it is selective in action, destroying all animal life without injury to any material. The thing needed is to get the gas in contact with the insect that may be in the centre of a bag of clothes. Working on this problem two years ago I decided to try a process recommended by the Department of Agriculture for the destruction of boll worms in imported cotton bales. By this method a vacuum is created in the metal chamber holding the baggage, after which cyanide gas is admitted and then air, until atmospheric pressure is restored. The gas is thus forced into the very center of every package, killing any animal life therein without so much as lifting a lid or opening a bundle. This process is now in operation at the Boston Quarantine Station and will be installed in the up-to-date sterilizing building planned for Craney Island. I believe it will be of service in many other ways against vermin and insect pests.

Bubonic plague is contracted from plague-infected rats and is probably the most serious of pestilential diseases. It was constantly referred to by the ancient historians and poets. The epidemics referred to by Homer and in the Old Testament as well as those of a later date which almost depopulated Asia, were probably plague. This disease, known by the dread name of "The Black Death," ravaged Europe during the middle ages, the most notable periods being the epidemic that spread over Europe in the years of 1348 and 1349 and the great plague of London, in 1665. The epidemic of 1348 killed a large percentage of the population of Europe and according to Gasquet brought about an economic revolution, the like of which has never been caused except by war or by a social upheaval such as the French Revolution. Italy is dotted with shrines and churches erected in supplication to St. Sebastian and St. Roch, the protectors of the people against this disease, and art of that period has used plague repeatedly as a subject.

Plague apparently advances and recedes in waves so that during part of the nineteenth century it had receded, possibly existing nowhere except in India or China, among the marmots, which are small fur-bearing rodents. But we are now in the midst of another pandemic. Happily we are in possession of accurate information on the epidemiology of the disease, so that in advanced countries at least no great loss of life should take place, but it is to be regretted that more advantage is not being taken of our new knowledge. Every city and especially every seaport should allow nothing but rat-proof construction. Thus we would prepare in advance instead of waiting until the disease appears and in the midst of alarms be forced to do hurriedly and at great cost what we may now do at leisure and at slight expense.

Plague is advancing upon us both by the Atlantic and the Pacific. The Hawaiian Islands, San Francisco, Seattle, several Pacific ports of Mexico and of South America have been infected. By way of the Atlantic, Portugal, the Canary and Azores Islands, Rio, Bahia, Rosario and other South American ports have suffered. English and Scotch ports have reported cases and, what seems nearer home, Porto Rico, Cuba and New Orleans.

Plague has usually reached this country from ports where the infection was not recognized or, if known, was denied. Even when its presence is promptly acknowledged, the measures that may be taken to prevent infected rats from crossing the seas are none too satisfactory. Theoretically it is simple, namely, killing the rats on each ship arriving, but practically it is very difficult. Rats hidden away in the many corners of the vessels or in the

cargo are reached with great difficulty and the cargo may be injured by fumigation or delays. In the modern fumigation of vessels we rely upon two gases, namely, sulphur dioxide, which is generated by burning sulphur, and hydrocyanic acid gas, sometimes called Prussic acid gas, which is generated from the combination of sodium cyanide and dilute hot sulphuric acid. Fumigation of a ship by sulphur dioxide requires from twelve to twenty-four hours. With cyanide it can be done in four to six hours. Sulphur dioxide is injurious to much that a ship contains, while cyanide injures nothing but animal life. On the other hand, cyanide is so deadly that it must be used with the greatest care.

To sum up, we know definitely the ways in which four of the so-called quarantinable diseases are spread. Yellow fever, typhus fever and plague are carried by insects and cholera by human beings. We must not let these carriers of disease enter our ports and we must not unduly delay shipping. To accomplish this requires a trained personnel and expensive equipment. That it is worth the effort and expense there can be no doubt, as these diseases are so terrible in their toll of lives and cost to commerce that everything possible must be done to keep them away.

Box 613.

NO "T. B." IN THE SPUTUM.*

By B. L. TALIAFERRO, M. D.,
Catawba Sanatorium, Va.
Resident Physician, Catawba Sanatorium.

Jno. B. Hawes, 2nd, very truly says: "Don't wait for a positive sputum. Absence of proof is not proof of absence." The doctor who demands a positive sputum before making a diagnosis of pulmonary tuberculosis, is losing valuable time for his patient and in many instances allowing the early case to go into the far advanced class.

We all know that the sooner the patient starts treatment the better the results. Do not wait for positive sputum if the patient has definite symptoms. Depend more on symptoms than on physical signs or laboratory tests in making your diagnosis. For instance, if a man has a hemorrhage from the lungs, assume that he has tuberculosis, until someone proves that he hasn't. By all means, after getting a careful family and personal history and record of temperature and pulse, make an examination of the chest, stripped to the waist. Do not forget to examine for rales after cough. Let the patient expire fully, then cough and quickly take in a fairly deep breath, and you will often be surprised to hear definite rales that cannot be elicited in any other way. Have the sputum examined, too. It may be positive on the first test. If negative, ignore the report if the patient has symptoms. The histories of many cases show that the doctor and patient were both misled by the report—"no bacilli found." Don't blame the laboratory man—he can only report what he finds. Sputum may be negative a dozen times and show positive the thirteenth time. Finding the tiny tuberculosis bacillus is like looking for a needle in a hay stack, in some cases.

We find at the Sanatorium at all times a large number of persistent negative sputums. In this respect there has been a considerable change in the last eight years, and it is evidence to my mind that doctors are taking a more sensible view of the situation. In the 1909 report of the Sanatorium, there were eight per cent. of the cases with negative sputum on admission and ninety-two per cent. positive. In the last one hundred cases discharged from the Sanatorium, the sputum on admission was negative in sixty-one per cent. and positive in thirty-nine per cent. This means that we are getting each year more early cases than formerly.

The following cases illustrate the importance of examining the sputum and the importance of ignoring the result of examination when negative.

Case 1. I was very much amused at the way an Irishman expressed himself recently. He had been treated for some time for cough and pain in the chest. He didn't improve and he changed doctors. After making a careful examination of the chest and getting a record of the temperature and pulse, the doctor obtained a specimen of the sputum. Fortunately for the man, the first report was positive. On being asked what was the result of the examination, he replied: "The report came back, Germs full grown and very numerous."

Case 2. Not so fortunate in the beginning. Man, age 26, cough, expectoration, night sweats, fatigue on slight exertion, slight loss in weight. temperature 97 to 100, poor appetite,

*Read before the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917.

slight dullness in the right apex, repeated sputum examinations negative. Treated as typhoid, on liquid diet, in bed for three weeks, and sent to the mountains for convalescence. Apparent recovery in four weeks. The man worked for twelve years, having each winter one or two "deep colds" and getting run down each spring. In 1912 severe cold, hanging on for four weeks, when he noticed that he was getting irritable, cross and could not sleep well, was easily fatigued, appetite capricious; thought he had a deep cold and paid very little attention to it, until one night after a hard coughing spell, took his temperature and found it a little over 99. Temperature had been previously normal and pulse had been 90 to 100. Was examined by a good doctor and advised to have an X-ray examination. Sputum was sent to the laboratory and report came back positive on first examination. After six months' sanatorium treatment in 1912, the man returned to work and has continued at work apparently in good shape ever since. He, however, is enabled to rest for an hour after dinner and always goes to bed early and takes the very best care of himself.

DISCUSSION.

Dr. E. E. Watson, Salem.—I have enjoyed the paper very much, and I do not think there is anything to add to what has been said, except to emphasize the fact that the vast majority of incipient cases are negative, and from the patients who have been discharged from two sanitoriums in the last twenty-nine years, there are about eighty-seven per cent. of them living today—that is, in the incipient class. In the moderately advanced class there are probably fifty-one per cent.; and in the far advanced cases only nineteen per cent. are living. That emphasizes the advantage and the necessity of getting an early diagnosis in tuberculosis. Out of about eighty or ninety cases, I do not remember exactly the number, about eighty cases of incipient tuberculosis, only about four of them have had positive sputum. Those four cases, as Dr. Taliaferro said, I do not believe should have been classified as incipient tuberculosis. They had passed beyond incipiency, but in our physical examination we were only able to find the lesion that caused us to have to classify them in the incipient stage, and I feel that very frequently if we didn't have the microscope we would make an earlier diagnosis. I feel if we would throw away our microscope and stethoscope we would probably get a better and earlier diagnosis, because we are too prone to rely on the laboratory findings and on the X-ray examination and other methods. I feel that if we would throw away those and rely on the history, it would be better; the history is, by far, the most important measure we have in diagnosis.

Dr. H. E. Jones, Roanoke.—That was an excellent paper of Dr. Taliaferro's. An early diagnosis is always important in tuberculosis—the most important thing, so that the patient can be treated early. I had a case about four months ago that came to me for treatment and my diagnosis was disease of the suprarenal capsule. He had all the clinical symptoms of the disease. There were no clinical symptoms. I treated this case with the usual treatment and in addition to that I used some mechanical measures. His symptoms of Addison's disease cleared up readily and the large brown spots disappeared. He had considerable edema of his feet and lower region and that disappeared; he had a constant ataxia and that practically all disappeared; he could walk all right. When he first came, knowing the most frequent cause of Addison's disease is tuberculosis, I made as careful examination as I could make of his chest. At that time I found no physical evidence of tuberculosis in his lungs, but I did find evidence of some kind of infection. A few days ago, along—about October 12th—I got a sample of his blood on a clean piece of blotting paper and mailed it to a laboratory for the purpose of diagnosis. They didn't do it by microscopic examination. I got a diagnosis back of tuberculosis. The next day he came back to my office. I hadn't gone over him in a thorough examination since last June, and I made another physical examination of him and found he had marked clinical evidence of tuberculosis of the lungs, especially in the right lung. This man's temperature is now normal in the afternoon, runs from 97½ to 98 1-5 in the morning, and in the afternoon it is normal. He had no cough, no expectoration, no sputum.

Dr. Taliaferro, (in closing).—I can imagine some of us throwing up our hands in holy horror at the idea of throwing away the stethoscope and the microscope in the diagnosis of tuberculosis. They will say, "What have we got left?"

Of course, you gentlemen have opened up other fields than mentioned in my paper, and I cannot go into those, but I felt, as did Dr. Watson—as you did when you heard what Dr. Watson said just now. About seven or eight years ago I heard a paper in Richmond by a doctor who expressed the same idea about diagnosis of tuberculosis without the stethoscope. I thought, "What would you use?" It was the one thing I knew of, but if you will just think along the line he thought, in the diagnosis of typhoid and the diagnosis of tuberculosis, when a man has a hemorrhage, make a diagnosis of the symptoms. You may find that the reason is deep-seated and you get no physical signs at first. That is what he means and I believe we are coming to it. We are getting earlier cases every year. There are doctors in this room who have sent in cases that were as early as they could possibly be detected. It is certainly encouraging to find that is the case. Dr. Jones is very honest in admitting a case he had been treating three or four months. We all fail to make early diagnosis. We do not expect to make them in every case; it is hardly possible.

Another Army Base Hospital.

It is announced that the Southern branch of the National Soliders Home, at Hampton, Va., will be taken over by the War Department as an army base hospital, and that buildings will be remodeled and additions built. These will all revert to the Board of Managers at the close of the war. The present inmates, about 3,000 in number, will be transferred to other stations.

Practical Points in Current Medicine

Conducted by
PUBLICATION COMMITTEE,
Medical Society of Virginia.

Public Health

The State Board of Health is acting as a clearing house for locating doctors in places where they are needed. There is no shortage of doctors in the cities and towns. They are only needed in the rural sections. A list of places will be furnished upon request.

Recently one doctor had six deaths from diphtheria in four days. He did not believe the cases were diphtheria until the disease was far advanced and then antitoxin was not available. Antitoxin should be given unless the doctor is sure the case is not diphtheria. Antitoxin should be available in every community. The more progressive counties authorize the members of the local health board to keep a supply on hand. Any one can purchase through the State Board of Health the highest grade diphtheria antitoxin at $1.40 per 5000 units; .95 for 2000; and .35 for 1000.

It was noticed at the Bureau of Vital Statistics that a certain doctor reported several deaths from diphtheria. The Commissioner wrote to find out if there was any special reason why antitoxin was not available. The doctor wrote back and said he had never used antitoxin in his practice and requested information as to the physiological action, dose, and how to give it. Such information is always cheerfully furnished by the Health Department.

This is the season of the year for smallpox and cerebro-spinal-meningitis, cases of which should be reported by telegraph, collect, to State Board of Health.

It has been several years since there has been a severe epidemic of smallpox in Virginia: consequently, there are many unvaccinated people. It is just a question of time when there will be a wide-spread out-break. The only effective method of checking an out-break is prompt and general vaccination.

The commonest diseases at this season are those affecting the respiratory tract. The germs of these diseases are in the secretions of the mouth and nose, so the preventive measures should be directed at preventing transference of the secretions from one person to another. People should avoid putting into the mouth things that may be soiled by the spit of others, as common cup, pencils, fingers, etc.; also people should turn the head downward when they cough or sneeze in order not to shoot the germs at others. The prevention of disease, like the prevention of accidents, is dependent upon the avoidance of small risks. The safety-first campaigns of the railroads have resulted in a wonderful reduction in accidents. In the same way, a campaign based on the simple habits of avoiding swapping secretions of the mouth would result in tremendous reduction of sickness.

ENNION G. WILLIAMS.

General Surgery

Pleuritis And Empyema.—Sane Management, Curative Treatment, Simple Operation, Local Anaesthetic.

Brevity necessitates dogmatism. Abstracts of case records are available upon request.

Pus in the pleural sac is invariably the product of pleuritis, in turn a part of the pneumonia, and the persistent pathology in 90 per cent of cases of delayed resolution or "unresolved pneumonia," namely, cases of pneumonia not entirely well after the ninth day. The present winter is yielding many cases.

Watchful waiting for the proper encapsulation of the pleural exudate until accessible to needle puncture exploration is safer and saner than the 50 per cent mortality of an exploratory thoracotomy across a non-suppurating area in the pleura. Rest in bed, opiates to secure rest of breathing, local applications, abundant fresh air and sunshine, and self-restraint on the part of the surgeon, practically always bring about a walling off of pus which is easily accessible to puncture within an area three inches in diameter, the center corresponding to the seventh interspace just posterior to the axillary line.

A large aspirating needle attached to a large "Record" syringe, provided with a double stopcock for withdrawing and expelling the fluid, is plunged through the chest wall and the fluid is removed. In young children, unless the pus is thick and yellow, this is frequently all that is necessary. In adults and others when the pus is thick, we commonly irrigate through the needle, injecting and evacuating saline through

the double stop-cock until the fluid returns clear. If the pus is very thick, we have plunged a gall bladder trocar through the interspace and irrigated with salt solution or a weak solution of iodine. In such cases as this, a linear incision through the interspace under local anæsthetic will permit the introduction of two small calibre rubber tubes pinned together and sutured to the skin. In from one to three weeks the drainage has ceased and the incision healed.

This treatment has given us 90 per cent. cures without sinus formation and no mortality due to the disease.

It has not been necessary in our experience to cut a rib in over ten years A careful study of the case reports of other surgeons leads me to believe that rib resection is unnecessary, unsafe, conducive to sinus formation, antagonistic to healing and, with a proper conception of the pathology of empyema, rib-cutting is illogical. For the occasional case which may demand more extensive operation than is outlined above, intercostal incision and rib spreading according to the technique of Lilienthal as a second operation, may be needful.

G. Paul LaRoque.

Internal Medicine

Management of Pneumonia.

Widespread incidence of pneumonia at this season of the year makes its management a timely consideration.

1. *Cool Fresh Air.*—Select in house a well-lighted room, preferably with southern exposure, capable of being opened for outside air. An adjoining room, heated, should be set aside for the nurses and attendants. Cool or cold fresh air is a great help; but the body of the patient must be protected by proper cover. Cold fresh air entering the lungs tends to prevent dyspnœa.

2. *Diet.*—Milk, modified by addition of carbohydrates, or predigested, should be given in adequate amounts, with regularity, in order to secure about 30 to 40 calories of heat for each kilogram of body weight. Water should be given in definite quantities whether desired or not. Alcohol in ratio of .5 c.c. per kilogram of body weight helps patient.

3. *Bowels.*—Prevent meteorism and tympany. Keep the belly flat. This may be done by proper dieting, mild purgation, application of turpentine stupes, high and low enemata. Stomach lavage is important if gastric dilatation occurs.

4. *Kidneys.*—The intake of liquids should be sufficient to secure copious discharge of urine each day. The nurse should measure the urine carefully daily. A specimen should be examined in laboratory at frequent intervals. Evidence of acute nephritis must be appreciated and measures adopted to check it, if possible. Renal function should be kept at highest efficiency in order to aid in reducing toxemia.

5. *Heart.*—Support the circulation when the need arises. Watch the second pulmonic heart sound, the blood-pressure, and the peripheral circulation. When cardiac failure appears, administer digitalis: infusion, ʒii: tincture. m xii:digitalin, gr. 1/100: digipuratum, gr. iss. If the failure is marked, strophanthin intramuscularly or intravenously: camphor in oil: caffein; theocin.

Bleeding is indicated and should be practiced, when there is marked dilatation of the right heart. Bleeding with proper cardiac drugs may save the patient. Spartein and quinine are useful drugs also.

6. *Combat Symptoms.*—Pain should be relieved by hypodermics of small doses of morphine or codeine; irritating cough and nervous excitement of the patient may be in a manner also assauged. Sleep and mental composure are both helpful to the patient.

7. *Crisis and Complication.*—Signs of collapse must be watched for and camphor in oil or strophanthin used intravenously. Morphine and atropine administered at the proper time, may save the patient at the time of crisis. Delayed resolution demands search for complications: sero-fibrous pleural effusion; endocarditis; nephritis; metastases.

Anti-pneumococcic serum, administered upon the basis of a differential study of the type of pneumococcus, is not discussed because of its more or less undetermined value at this time.

Alexander G. Brown.

Obstetrics

The prenatal care of the infant and the antepartum supervision of the parturient woman have added much to the responsibility of those who do obstetrical work. While this has not been recognized financially, yet there is much satisfaction and pleasure in seeing our patients go through with their trying ordeal with safety, and most of them left in an almost normal condition.

One who is not endowed with a great deal of patience, and who is unwilling to give a great deal of his time to the patient at labor had better refuse this class of work. Possibly two lives are at stake; certainly two individuals may carry morbidity through life from lack of intelligent care.

The obstetrician has failed in his duty if he has not made the necessary urinary examinations, a general examination of the patient, noting any pathological condition that might give trouble during pregnancy, labor, or in the puerperium. He should use his pelvimeter so as to know any marked deviation from normal measurements, and be able to advise cesarean section when indicated, without making a vaginal examination at the time of labor.

Many patients do not receive the best treatment at the time of labor, because the doctor has not previously acquainted himself with the conditions existing in the patient, and is therefore not prepared to meet the emergencies that are sure to arise. It is not ignorance on the part of the doctor but simply unpreparedness.

We have been taught that labor is a physiological process; it certainly borders very closely on the pathological. If a woman's rectum were torn fifty per cent. of the times she had a movement from her bowels, we would hesitate to call it a physiological process.

Eight thousand women die from puerperal sepsis each year in the registered area of the United States; five times that number is a very small estimate of the number of women who suffer from puerperal infection to a greater or less degree. A great deal of this mortality and morbidity is preventable, but it will not be lessened in amount until we practice what we believe, namely, that the interior of the uterus is as vulnerable to infection as the peritoneum, that the sterile (?) hand in a sterile glove can carry germs from the disinfected (?) vulval glands into the vagina and uterus, and that undue haste in delivery can do more damage to the generative tract than any good gynecologist can successfully repair, without leaving some morbidity. "Watchful waiting" is the slogan in obstetrics, provided you know what you are watching and waiting for, and are prepared to meet it.

Virginius Harrison.

Nervous and Mental Disease

Prevention of Nervous And Mental Disease.

One of the largest problems presenting itself to the world today is the prevention of nervous and mental disease. Probably the most practical way to begin would be the passage of a universal law to prevent the marriage of known drunkards, the venereally infected, paupers, feeble-minded individuals, criminals, the insane, epileptics and first cousins. A bill of this character will probably be presented at the coming legislative session in Virginia.

But this only prevents inheritance by marriage; and the further development of feeble-minded colonies, reform farms, epileptic colonies, juvenile courts and social work will, we hope, limit the illegitimate.

Further than this, there are a good many other subjects which should attract attention, as, for instance, improvement of home conditions, universal prohibition of strong alcoholic drinks, education along lines of self control, better government, improvement in the school life, universal tests for the mental status of the child, physical examination for defects and stigmata of all kinds. There should also be regulation of the life and social education of youth during puberty and adolescence, so as to broaden the individual horizon and eliminate as far as possible selfishness and inculcate a sense of responsibility for our fellow man. There should also be proper management of birth conditions in regard to prolonged labor and the use of forceps and drugs. Educational propaganda should be made with the object in view of creating a higher moral tone, the institution of certain dress reforms in the female and the promulgation of ideas of thrift and economy.

These brief suggestions are simply given as food for thought.

Beverley R. Tucker.

Proceedings of Societies, Etc.

MEDICAL SOCIETY OF VIRGINIA.

Proceedings of the Forty-eighth Annual Session, held in Roanoke, October 30-November 2, 1917.

First Day—Tuesday Night, October 30, 1917.

The forty-eighth annual meeting of the Medical Society of Virginia was called to order by the President, Dr. Geo. A. Stover, in the auditorium of Hotel Roanoke, Roanoke, at 8 o'clock, Tuesday evening, October 30, 1917.

The President—Rev. Dr. W. C. Campbell, of Roanoke, will deliver the invocation.

(All stand while Rev. Dr. Campbell offers prayer).

The President—Dr. E. T. Brady, Chairman of the Local Committee of Arrangements, has some announcements to make.

Dr. E. T. Brady, of Roanoke, after making several announcements regarding the sessions of the meeting, introduced Dr. F. M. Hanger, of Staunton.

Dr. Hanger—Members, Fellows of the Profession, Ladies and Gentlemen:—It is indeed a pleasure for me to be here tonight as the representative of a delegation from Augusta County, the birthplace of our newly elected and honorable President, in order to present to him a small token as a reminder of the home in which he was born, and as an evidence of the high esteem in which he is held by the Augusta County Medical Association.

Born in the beautiful Valley of the Shenandoah, he grew to sturdy manhood, until his restricted environments became too small for commendable ambition which took possession of him, and he went forth into the world where opportunities were better and where he could do the most good in the profession of his choice.

We have all watched with pride his progress upward, until he has reached the zenith of his fame by receiving at your hands the greatest honor which can be conferred by this Society. (Applause). This was given to him not only because of his true worth as a medical man, but because he stands today the recognized champion of right and the emancipator of the medical profession in Virginia. For it was through his indefatigable and heroic efforts, more than any other's, that we have finally been relieved of the license tax under which we have so long suffered. (Applause). It is not for me to discuss here the justice of our cause. The world regards it as just; it is a shame on Virginia that she has not more fully appreciated our efforts in behalf of suffering humanity; year after year we importuned our legislators to relieve us of this imposition, but with a grasping greed of which a Shylock would have been ashamed, they continued to demand their pound of flesh. When at last hope was nearly gone, through the magic touch of this disciple of Æsculapius, the scales fell from the eyes of these Sauls of Tarsus, and behold! They saw the light and the persecution ceased! (Applause). I regret to say that some of our cities have seen fit to re-impose a license tax on physicians. I hope to see at the meeting of our next legislature a bill enacted which will prohibit the imposition of such a tax within the confines of this state.

Mr. President, it is scarcely fair to take advantage of you at this hour of your exaltation and pride, for naturally your exalted head is now among the stars (laughter), and bring you back to earth, by presenting to you, however acceptable it might be on any other occasion, a gavel made from the wood of the bed on which you were born. (Applause).

If there be a telepathic communication between this and the spirit land—and I believe there is—well do I know that the sainted mother who has watched over you through the years past, with a just pride and a heartfelt consciousness, feels that the tears she shed and the anguish she suffered at the time of your birth, has been fully repaid by the laurels which you have won and which we have placed upon your brow.

Mr. President, accept this gavel as an evidence of your authority; use it impartially, as I know you will, in presiding over this assembly, and when your duties here are done, take it to your home and give it a place of prominence among your household goods, so that in after years, when other and greater honors are conferred upon you, it will be a constant reminder of the humble home in which you were born; and when, at length, the infirmity of years shall come to you, manifest by the tottering step and the palsied hand and with the multifarious vagaries of the mind, you will naturally magnify even the importance of this great occasion, to get your children's children about you and tell them the time, the place and how this gavel was presented to you, and bid them preserve it as their most valued possession. (Laughter and applause). And when greater honors will be bestowed upon you, may you drink ever of the cup of joy. Well do I know, when looking back through the vista of years, the emotional heart-throbs which you experience this night will cling to your memory and be more soul-satisfying than any event you ever experienced in your brilliant career! (Loud applause).

The President—Dr. Hanger and my Professional Brethren from Augusta County, Ladies and Gentlemen:

I cannot hope to match the eloquence with which my distinguished friend has just addressed me. Neither can I bring myself to believe all the nice things he said about me as being deserved.

I must admit that I never have been as much affected in my life; I must admit that I know I will not be able to give adequate expression to the sentiments that swell within me. I thank you from the bottom of my heart; I shall always cherish this hour as the climax of my life.

I am proud I was born in Augusta County, in the Valley of Virginia. I am proud of my professional brothers who live there; they have been exceedingly kind to me always; and this act of theirs is just in keeping with their former attitude toward me. They have already honored me once before by inviting me to be their guest on one occasion and in making me an honorary member of their organization.

If I am not mistaken, Augusta has furnished three Presidents to this Society. I feel very proud that I have been honored with being included in that number. I shall keep this gavel in the spirit in which the eloquent Doctor has just suggested that I should keep it. I will treasure it always as a holy, sacred memento, doubly precious because it has an association with my mother. I thank you. (Applause).

The President, Dr. Geo. A. Stover, South Boston, then delivered his annual address, taking for his

subject, "Medical Men as Social Factors." (See paper in *Va. Med. Semi-Mo.*, Nov. 9. 1917).

Dr. Douglas S. Freeman, Richmond, was then introduced, and delivered an address entitled "The Effect of the New World Upon Professional Standards: "Some Sidelights on Medicine." (See paper in *Va. Med. Semi-Mo.*, Nov. 9, 1917).

Dr. J. Shelton Horsley, Richmond, read a paper on the "Diagnosis and Treatment of Cancer of the Breast." (See paper in *Va. Med. Mo.*, January, 1918.)

Dr. E. T. Brady, Roanoke, read a paper on "Osteitis Deformans—With Exhibition of Case."—Lantern slides. (Paper in hands of Publication Committee).

It was moved, seconded and ordered that the reports of the Executive Council, Officers and Standing Committees be deferred until tomorrow, Wednesday, at 11 A. M.

On motion, the Society adjourned until 10 A. M., Wednesday, October 31, 1917.

Second Day—Wednesday Morning, October 31, 1917.

The Society was called to order by the President at 10 A. M.

The President—We will proceed with the morning session. The first thing on our program is the call for Report of Clinical Cases (five minutes for each report). We will be glad for some one to start the ball to rolling.

Dr. C. C. Coleman, Richmond, Va.—Mr. President, I desire to submit a report on "A Case of Pneumococcic Meningitis, Treated by Decompression and Ventricular Drainage." (Author will submit written report later).

The President.—Is there any discussion of the report by Dr. Coleman? We would be glad to hear from you.

Is there any other report of Clinical Cases? If there are no other cases to report, we will take up the subject for discussion, "Diseases of the Bladder." The first division of this subject, "Etiology and Pathology," will be presented by Dr. T. V. Williamson, of Norfolk. Is Dr. Williamson present?

A Voice—He is in the army.

The President—The second division of the subject, "Symptoms and Diagnosis," will be presented by Dr. E. H. Miller, of Danville. (See paper in *Va. Med. Semi-Mo.*, Nov. 23, 1917).

The President—Under "Diseases of the Bladder," we will now have "Medical Treatment," by Dr. John Staige Davis, of the University. (See paper in *Va. Med. Semi-Mo.*, Nov. 23. 1917).

The President—The Secretary has just asked me to request that all papers read before the Society be left at his desk.

The next paper is on the "Surgical Treatment" of Diseases of the Bladder, by Dr. A. L. Herring. Dr. Herring has been called to the colors. Are there not some surgeons present who will supplement or fill in this part of the program by speaking extemporaneously? If so, we will be glad to hear from them. Dr. Horsley, will you not discuss the surgical treatment for us?

Dr. J. Shelton Horsley, in complying with the request, stated that the subject was a pretty big one and that he would discuss just a few features of it. His own experience was probably mostly with the types of bladder disease that accompany diseases of the prostate gland. The principles of surgery involved in this location were based on the principles of surgery everywhere. The function of the organ is that of a reservoir. One of the greatest mistakes that is likely to be made is treating the bladder for bladder symptoms when the real pathology is elsewhere.

The President—Has anyone else anything to add to Dr. Horsley's discussion? Dr. Henson, we will be glad to hear from you.

Dr. J. W. Henson—I have nothing else to add. The subject seems to have been covered.

The President—If no one else will add to the discussion, we will declare the whole subject of "Diseases of the Bladder" and the papers presented open for general discussion. We will be glad to hear from anyone.

There was further discussion by Dr. Ralph W. Brown, of Roanoke; Dr. John Staige Davis, of University; Dr. A. M. Burfoot, of Fentress; Dr. H. C. Smith, of Crewe; Dr. Walter Cox, of Winchester, with closing remarks by Dr. E. H. Miller, of Danville.

The President—The hour of eleven has arrived, and now is the special order for the reports of the Executive Council, officers and various committees. We will now have the report of the Executive Council.

The Secretary—The Chairman of the Executive Council is not in the hall.

The President—The Chairman of the Executive Council not being present, we will call for other reports.

The President—We will ask for the report of the Judiciary Committee.

The Judiciary Committee had no report.

The President—We will have the report of the Committee on Election of new members. Dr. W. D. Turner, of Ocean View, is chairman. Is he present?

The Secretary—Dr. Turner is sick and for that reason is unable to be present.

The President—I think possibly that committee has a representative here.

The Secretary—I think some of the members of that Committee are here, but not in the hall at this time. There is really nothing for that Committee to do now under the present plan of organization.

The President—Passing on, we come to the report of the Legislative Committee. I think Dr. Gray is Chairman and that he is in the session of the Council at this time.

We will call for the report of the Necrological Committee.

Report of the Necrological Committee was thereupon read by Dr. C. M. Edwards, Chairman. As notice of the death of each member recorded has already been published in an issue of the *Virginia Medical Semi-Monthly*, the Publication Committee deems repetition unnecessary, and gives below only the name, address and date of death of such members:

Dr. Louis McLane Tiffany, Non-Resident Honorary Member, Baltimore, Md., October 23, 1916.

Dr. Louis E. Gott, Honorary Member, Falls Church, October 29, 1916.

Dr. Hugh R. Green, Delaplane, October, 1916.

Dr. Samuel Ridout Glover, Midway Mills, December 5, 1916.

Dr. Thomas Nathaniel Jacob, Dalbys, December 5, 1916.

Dr. Henry Rolfe Dupuy, Norfolk, December 11, 1916.

Dr. T. M. Cherry, Norton, December 11, 1916.

Dr. George Ben Johnston, Honorary Member, Richmond, December 20, 1916.

Dr. Kenton H. Trimble, Monterey, December 22, 1916.

Dr. Benjamin Hopkins, Honorary Member, Hot Springs, December 26, 1916.

Dr. Benton F. Tatum, Stuart, December 29, 1916.

Dr. Henry Theodore Bahnson, Non-Resident Honorary Member, Winston-Salem, N. C., January 17, 1917.

Dr. Oscar Samuel Owens, Richmond, February 8, 1917.

Dr. John L. Stearnes, Honorary Member, Salem, February 22, 1917.

Dr. Henry Frost, Honorary Member, Marshall, March 23, 1917.

Dr. Charles Locke Skinner, Charles Town, W. Va., March 24, 1917.

Dr. Walter W. Wilkinson, Catawba Sanatorium, March 28, 1917.

Dr. Joseph D. Alderson, Meadow View, March 30, 1917.

Dr. Robert Vernon Palmer, Cherrydale, April 5, 1917.

Dr. Brainard W. Hines, Pilot, April 6, 1917.

Dr. William Henry Taylor, Honorary Member, Richmond, April 14, 1917.

Dr. Livius Lankford, Norfolk, June 18, 1917.

Dr. H. Gilbert Leigh, Petersburg, September 22, 1917.

Dr. James Henry Garlick, Honorary Member, Staunton, October 7, 1917.

The President—The next order of business is the report of Delegates to the American Medical Association.

Report of the Delegates to the American Medical Association.

The organization of the A. M. A. includes a president, vice-presidents and a secretary, a board of trustees, which is the executive committee of the association, and several councils, each in charge of important work. All of these positions are filled by the House of Delegates, which is composed of representatives from the various state societies, the army, navy and public health services, and from the sections of the Scientific Assembly.

The board of trustees, which has especial charge of the finances, names a business manager and editor.

The Scientific Assembly is divided into sections, and each section elects its own officers. Its numerous meetings are all largely attended, and the papers and discussions represent the highest development of medical science. The chief business efforts of the association are carried on by the councils, and it would astound you to know of the enormous amount of productive work being done for the good of the profession and public.

The Council on Health and Public Instruction reported, for instance, that during two years it issued and distributed nearly two million pamphlets. Its work covered a wide field and embraced many important topics. A voluminous report was made on the subject of Social Insurance, which was thoroughly studied from every standpoint, including an investigation of the situation in foreign countries. This is a matter vital to the profession, which is being taken up by the legislatures of several states, and may come before our own legislature at its next session. If it does, this society will have much to do to protect the interests of its members, and the report of the A. M. A. Council will be most helpful. In concluding its report and recommendations, the sub-committee, headed by Dr. Alexander Lambert, states as follows: "———— such legislation should provide for the freedom of choice of physicians by the insured; payment of physicians in proportion to the amount of work done; the separation of the function of medical official supervision from the function of daily care of the sick, and adequate representation of the medical profession on the appropriate administrative bodies."

Women and Children's Welfare work, Conservation of Vision and Cancer Education, received considerable attention.

The Council on Medical Education recommended a four-year high school course, two years' collegiate work, four years' medical course and one year hospital internship. It predicted that by 1920 this standard would be required in each state.

The Council endowed the work of the National Examining Board, presented a preliminary list of approved hospitals, and urged the higher standardization of hospital work and equipment.

Largely through this Council the number of medical colleges is being gradually reduced and their standard raised.

The committee on Red Cross work made a full report, showing much good organization and cooperative work already accomplished.

During the past two years the various Councils and committees of the A. M. A. have been working vigorously and harmoniously with the National Government in connection with medical preparedness. The results show for themselves. No profession or calling in this country has responded so promptly or so liberally as the doctors. Many of the best workers, at enormous personal sacrifice, have placed themselves at the service of the government. Every medical man in the country stands ready to do his part. The organized work of the A. M. A. has done much to produce this result.

Your delegates have been deeply impressed with the fact that the states which are accomplishing the most for the profession are the well organized ones. There the best laws are in force, the spirit of comradeship is the strongest, and higher medical education is being developed to a marked degree. In all of them the county society unit is the foundation stone of their work and success. In each of these units the men get together closely, know each other better, help each other, regulate fees, educate the community in regard to health matters, educate the local legislators regarding proper medical laws, form reading clubs, institute post-graduate studies and vie with each other in making better doctors of themselves.

The most instructive and delightful meeting we had the opportunity of attending was a conference of the presidents and secretaries of various state societies. The gathering was most informal and developed into an experience meeting where each man told of his troubles, his successes and his aspirations in the development of the State Society and its county units.

These active units together form and direct the State Society, and the delegates from such state societies control and direct the great American Medical Association.

It is a mistake to think that the A. M. A. controls the state societies; your delegates thought that way but have found out their error.

The A. M. A. is controlled entirely and completely by the county units throughout the country. It is a wonderful organization and is doing great constructive work for the profession.

It undoubtedly makes mistakes at times. In its efforts to improve health conditions throughout the various states, injustice was done to several state boards of health, including our own excellent board. But we are convinced that this was unintentional and will be corrected.

Your delegates believe it to be their highest duty to call to the attention of the doctors of Virginia the great work and greater opportunities of organized medicine, and to urge that each one of you go and see for yourself.

We would leave with you the thought that until we doctors of Virginia complete to the fullest extent the details of our medical organization, we will be missing many of the good things that are now coming to the profession in other states.

Respectfully submitted,

(Signed) W. E. Anderson,
Southgate Leigh,
Delegates.

The President—We will now have the report of the Treasurer. Is he present?

The Secretary—He was here a moment ago, sir.

The President—As he seems to be out of the hall at present, we will pass that by temporarily. The next order is report of the Secretary.

Report of Secretary.

October 30, 1917.

To the Medical Society of Virginia:

During the past fiscal year, twenty-four members have died, as recorded by the Necrological Committee.

Resigned.

Drs. J. C. Burks, S. D. Craig, W. A. Gordon, J. E. Sebrell, A. J. Burkholder, S. A. Draper, W. C. Hall, J. F. Ward, Marmaduke Atkinson, M. C. Edmunds, I. W. McDowell, R. T. McNair.

Dropped.

Drs. J. T. Booth, E. C. Fisher, W. L. Karp, L. B. Wiggs, W. B. Dodge, J. B. Bowles, E. W. Gee, B. C. Kellam, W. P. Isley, J. T. Doles, T. C. Firebaugh, W. A. Gordon, A. P. Traynham, W. R. Tullos, H. W. Judd.

The terms of the following Councilors expire by limitation with this meeting:

Councilors at Large—Dr. W. F. Drewry, Petersburg; Dr. T. W. Murrell, Richmond.

First District—Dr. H. D. Howe, Hampton.

Dr. Clarence Porter Jones, Newport News, has been nominated to succeed Dr. Howe.

Third District—Dr. McGuire Newton, Richmond.

Dr. Alexander G. Brown, Richmond, has been nominated to succeed Dr. Newton.

Tenth District—Dr. W. F. Hartman, Swoope, Augusta County.

No announcement has been received that any one has been nominated to succeed Dr. Hartman.

In compliance with the By-Laws, notices were sent to the Councilors of the above Districts that vacancies would exist in their Districts, with the request that they take the proper steps to have their successors nominated.

Delegates to the American Medical Association:

The terms of Dr. W. E. Anderson, Farmville, Delegate, and Dr. G. W. McAllister, Hampton, Alternate, and Dr. Southgate Leigh, Norfolk, and Alternate, Dr. L. T. Royster, Norfolk, expire with this meeting. Their successors will have to be elected.

The terms of the members of the Medical Examining Board of Virginia expire in April, 1918, all of whom have to be nominated at this meeting to the Governor of Virginia for commissions.

In accordance with the resolution passed at the Norfolk meeting, 1916, the county societies have been notified and requested to send delegates to this meeting, although no House of Delegates is yet authorized by the Constitution and By-Laws, nor are these delegates at this time clothed with any legislative authority.

After the announcement cards had been sent out calling for papers, the question of changing the date of the meeting of the Medical Society of Virginia was brought to the attention of the Executive Council, owing to the fact that there was a conflict in date with the meetings of the Clinical Congress of Surgeons, American College of Surgeons, Medical Board of Council of National Defense, and other national organizations in Chicago during the week of October 20-27, 1917, and that of the Medical Society of Virginia, October 23-26, 1917, at Roanoke.

The Chairman and Clerk of the Executive Council advised with individual members of the Council by correspondence, rather than to call a meeting of the Council, owing to the time and expense involved. After due consideration as to the advisability of changing the date, it was decided that it was for the best interest of the State Society to advance the meeting of the Society one week, hence the date for the meeting of the Society was changed from October 23-26, to October 30-November 2, 1917. This change in date was suggested for the reason that a number of members of the Society wished to attend the meetings in Chicago and our meeting in Roanoke, and for the further reason that the prominent speakers to take part in the symposium on "Medical Military Preparedness" would have been unable to attend our meeting at Roanoke on account of this conflict of dates. We hoped also it might be the means of securing other distinguished physicians and surgeons for our meeting. A notice of the change in date of the meeting was sent to each member of the Society, with the reasons therefor.

At a meeting of the Executive Council, held in Richmond in May, it was decided by the Council that it would live within the income of the Society and would not incur a debt it could not meet, and would also endeavor to administer the affairs of the Society on a business basis.

The Secretary was instructed to send out a circular letter, notifying each member of the Society of this action, calling upon the members of the Society not members of county societies, to pay their dues and especially the county societies to do everything in their power to collect the dues of their respective members and forward same to the Treasurer, and that until sufficient funds were in the hands of the Treasurer to meet the publication of the transactions, the publication of said transactions would be deferred; hence the delay of the publication of the transactions and their publication in an abridged form, as the money was not forthcoming to publish them as heretofore.

At a meeting of the Council held in July, it was decided to publish the transactions, leaving out the papers, as practically all the papers had been published in journals selected by the respective authors and without any suggestion whatsoever on the part of the Council or any officer of the Society, as to what journal they should select. The Council recognizes that the volume of Transactions of 1916 is a poor exhibit, but it was the best that could be done with the funds in hand or that would probably be collected.

Owing to the trend of the times and advances that are being made and that are practically demanded, we can no longer move along the lines of least resistance as heretofore and conduct the affairs of the State Society as in the past. We must develop, expand, and extend our influence along broader and more advanced lines. We must grow

and keep pace with the profession in other states. It is to be hoped that in a few years the State Socicty will be in a position to establish and publish its own journal, or adopt some journal as its organ, which, for the annual fee charged (and which most likely will have to be increased), will be sent to each member of the Society.

To accomplish this, we must first lay a broad foundation for this new structure, this new institution, to rest on and be built on. I mean, in order to increase the usefulness and influence of our State Society and make it worth while, we must begin at the bottom round of the ladder and establish in each county a component society as an integral part of the whole. Unless we can have in each county a good local Society, our foundation will not be a strong one, for a chain is only as strong as its weakest link.

A strong, compact, well-devised and well-planned organization can bring about many advances, advantages and reforms for the public, the profession and the individual physician that we do not now possess. The profession in many of the states, both North and South of us, are much better organized than we are and have accomplished much for the profession along these lines.

It is true we have not had the difficulties to confront us that many States have had and are having at this time. We have fewer irregulars and quacks than almost any state in the Union, and they have less influence; especially is this true in the States where organized labor has become a factor. These problems have not as yet been forced upon us, owing to the fact that our State is more of an agricultural than a manufacturing one, but they are coming. We should be ready for them when they do come, and we can do this only by "preparedness."

Casualty, health insurance, compulsory social insurance, workmen's compensation laws and a defense insurance law will soon be necessary. It is claimed that the benefits derived from the workmen's compensation laws are mutually beneficial to the public and the profession. In 1884, Germany passed such a law. Some years later, England adopted similar laws. Thirty-three states in the United Kingdom have written these laws on their statute books. I have seen in the secular press, that bills putting these laws into operation will be introduced into every State in the Union, where they are not now in operation. Such laws will be presented to the Virginia Legislature in January, 1918, and that a strong lobby will be behind them and every effort that influence and money can secure to pass these laws goes without saying. We must keep our ears to the ground and be ready to protect the medical profession. The Workmen's Compensation laws are comprehensive and far-reaching, and will, in my judgment, in a few years, work radical changes in the practice of medicine and surgery in Virginia, as it has done in Germany and England and in some of the States of our own country, and will seriously interfere with the income of many a physician. These laws contain provisions that directly concern the physicians of Virginia, and any legislation of this character should be watched and the medical profession should be prepared to protect its interest. With a strong local organization in each county of the State, and these one hundred units, one hundred county societies banded together in a well-ordered State Medical Society, all of these problems can be met and taken care of, for the benefit and betterment of the medical profession. We must complete the organization in each county of a component Medical Society; then develop its influence and possibilities. As well said by another, "this is a practical business proposition." Every other line of business or profession is thoroughly organized but ours. In developing the usefulness of the local and state organizations, the most important object of all is the question of suggesting and encouraging the individual doctor to higher medical education. If we do not, we will soon be left in the distance. In some states the work has gone forward so well that each society has a post-graduate course of study. What are we doing in the Medical Society of Virginia? What we need in Virginia is to strengthen and complete our local organizations and through them, strengthen our state organization. This is not theory, but common sense, and must appeal to you. Thorough and intelligent co-operation is all that we need. Listen! Co-operation, combination and organization is what has made the business man such an important factor in the world today. It will also give the medical man a position and power in the state that he does not now possess. We will be able to command and secure all necessary legislation, and also be in a position to prohibit legislation that is inimical to the interest of the individual doctor and the medical profession.

In the interest of local organizations, I have attended several medical gatherings during the year—the South Piedmont Medical Society, in December, 1916, at South Boston; the Southwest Virginia Medical Society, at Pulaski in June, and, later in the summer, the Bedford County Medical Society, at Bedford City; the Brunswick County Medical Society, at Lawrenceville; the Southside Medical Association, at South Hill, as well as the Mecklenburg County Medical Society, in that way presenting and advocating our plan of organization in my feeble but imperfect way and with some measurable success. With the assistance and co-operation of Dr. E. L. Kendig, of Lunenburg, Councilor of the Fourth District, who has been especially active in Society work, we succeeded in rejuvenating and reorganizing the Societies in Brunswick and Mecklenburg. I regret that the opportunity did not present itself for doing more work of this kind.

We should live up to the Constitution and By-Laws, providing for County Societies, and do all in our power to perfect them in each county as long as this is our plan of organization, or else adopt a better plan. Many Societies have as a feature of their program an oration or address on the advances in both medicine and surgery by some distinguished men in these specialties, which appeals to me; hence I present it for your consideration.

We have sent an invitation in the name of the President and Chairman of the Executive Council, to the members of the Medical Reserve Corps, at Camp Lee, Newport News and Fortress Monroe, inviting them to attend this meeting.

Respectfully submitted,

PAULUS A. IRVING. *Secretary.*

To be Continued.

NORFOLK COUNTY MEDICAL SOCIETY—SURGICAL SECTION.

Reported by EDWARD D. STARKE, M. D., Norfolk, Va.

The surgical section of the Norfolk Medical Society met for their usual monthly clinic on Monday, December 10, at 8 P. M., Dr. James H. Culpepper presiding.

Dr. Edward T. Hargrave reported a series of *four cases of cancer of the uterus* operated on by him after the technique of Wertheim. One of these cases showed extensive pelvic involvement that appeared to be metastatic processes from the uterus to its adnexa. His first conclusion was that the case was too far advanced for operation, but on making an exploratory survey he found that the apparent extension into the tubes and broad ligaments was a coexistent pus tube, with its usual accompanying entanglements. He cited the case to show that the two conditions can exist at the same time and be misleading and confusing, when external methods of diagnosis are depended on entirely.

Another case operated on in 1913 had no return of the cancer, but after a long period of time found her way to Dr. Piersol, who found that she was then suffering with Dercum's disease (adiposis dolorosa).

A case of particular interest was one operated on in 1915, who a year later developed a cancer of the left breast, and later of the right breast. As there is no lymphatic connection between the uterus and mammae, Dr. Hargrave brought up the question of the cause of the reappearance of cancer at remote points, with no possible chance of metastatic transference.

Dr. Southgate Leigh showed a case of very clever *plastic work on a nose* broken down *with extensive lupus involvement.* Nearly all of the integument of the nose had been destroyed. The case had been treated for some time with X-rays, but nothing had been accomplished. Photographs of the case before operation showed the nasal fossae exposed under all the soft coverings.

By cutting a pattern of the ulcer and marking its outline on the skin above, Dr. Leigh was able to mark out just the size and shape of the tissue needed to fill the gap. This was taken from the forehead near the median line and turned down on a pedicle, the under surface of the skin being used for the roof of the nasal cavity. By keeping it well cleansed with a thin oily antiseptic film, he has been able to obtain nearly perfect results within the nose. At another sitting he will cut through the pedicle and, if necessary, close the gap from which the skin was taken with grafts from the thigh. The cosmetic effect is even at this showing almost perfect.

Dr. Culpepper left the chair temporarily to read a paper on the "*Treatment of Infected Wounds with Dakin's Solution.*" He first pointed out that, contrary to the idea that prevails in the minds of a number of surgeons, Dakin's fluid can be prepared by any reasonably intelligent man, and is not, as stated by some, a matter that requires the skill of an expert chemist. Not only that, but the cost is relatively cheap, about ten or fifteen cents per gallon. It has been made for some time at the Sarah Leigh Hospital by a nurse, the assistant superintendent, and has only to be checked to be sure that the formula is accurately followed. The freshly prepared solution will keep about thirty days in the dark and about fifteen days in light.

He stated that stock tablets are as a rule unreliable, the cost is almost prohibitive, and they are weak and show free alkali. Those that come up to the standard are above the required strength and irritate.

Cup-shaped wounds are the easiest to treat. A pad of oakum is placed over the ulcer and the fenestrated tube is placed so as to allow the solution to flow easily into the bottom of the cavity. Any that might run over is caught by the dressings. Sinus and drainage wounds are kept open and one or more tubes kept *in situ*, the fluid being allowed to flow about every two hours, or by continuous drop.

The errors of treatment are practically three: First, insufficient amount of solution in wound, or the fluid does not thoroughly penetrate the depth of the wound; second, excessive amount of fluid; third, insufficient opening and room in wound for the return flow.

At the Sarah Leigh Hospital the treatment has been carefully tried out for some time, and the results have been little short of marvelous in the cleaning up and healing of postoperative sinuses and deep suppurative foci. The tubes are allowed to remain in the wound until the granulations push it out, or until the bacteriological count is one or less to the field. When the microscopic examination shows a clean field from the smear that is taken at intervals, the wound is closed and healing takes place very quickly. The tubes are removed from time to time to be cleansed and for taking smears. No smears are taken when blood is present. The tubes are never placed in an abdominal sinus until it is known to be walled off.

Analyses, Selections, Etc.

Conducted by
MARK W. PEYSER, M. D., RICHMOND, VA.
Secretary Richmond Academy of Medicine and Surgery, etc.

Pituitary Functions.

Although no single method of study has been entirely satisfactory in elucidating the complete story of glandular function, the operative removal of isolated structures has thrown a flood of light into many obscure places of physiology. Pathologic anatomy, the outcome of Nature's experiments in disease, has often supplemented the extirpation experiment or pointed the way to its meaning. All of this is brilliantly exemplified in the modern study of the pituitary body. Although some of the details of the results of experimental interference have been in dispute, the major features are at length confirmed. Following the lead of Paulesco, professor of physiology at Bucharest, who introduced the most successful method of accomplishing experimental surgical interference with the pituitary body, and of Harvey Cushing and his fellow workers in this country. Blair Bell (Experimental Operations on the Pituitary, *Quart. Jour. Physiol.*, 1917, 11, 77), has added testimony that should help to complete the story in some of its most important aspects.

Before referring to the results of this English worker, it may be well to remind the reader that the pituitary body consists of two clearly differentiated parts which have separate modes of origin. The anterior lobe is distinctly glandular in character; the posterior lobe is developed from the nervous tissue with which it is more directly connected. There is no longer any doubt that complete loss of the pituitary body is speedily followed by death which cannot be attributed to mere shock; it is, therefore, an organ that is essential to life. All the investigators are now further agreed that neither partial nor complete removal of the posterior lobe causes any symptoms. The genital organs, the development of which seemed to be correlated in some way with the integrity of the pituitary, remain normal after ablation of the pars posterior, and young animals continue to develop after such an operation. Hence, the secretion of the pars nervosa is, to quote Blair Bell, neither beneficial nor essential to life. Bell finds that partial removal of both anterior and posterior lobes likewise causes no symptoms, provided only a small portion of the pars anterior be removed. On the other hand, the removal of very large portions of the pars anterior is incompatible with life. Bell regards it as convincingly demonstrated now that it is the loss of this portion of the organ that proves fatal when total extirpation of the pituitary is practised.

Cushing and his colleagues have discovered that when the anterior lobe is partially removed in young animals, a condition of persistent infantilism with absence of sexual development is likely to occur. Bell has likewise noted genital atrophy under such conditions. The manifestations of dystrophia adiposogenitalis, which Cushing has described in animals after interference with the anterior lobe, could be produced by Bell in only one way, namely, by interference with or separation of the infundibular stalk. This apparently brings about a disturbance of the blood supply to the gland. As a result, there is insufficiency of the anterior lobe. The cells of this part becomes shrunken, atrophic and discrete—a state of affairs which, as Bell says, is always found in the human subject afflicted with the syndrome of dystrophia adiposogenitalis.

It has been held by histologic students of the pituitary that a secretion from the posterior lobe which is in close juxtaposition to the nervous tissues, passes directly into the third ventricle. But Bell points out that the only real secretory cells of the posterior lobe—the cells of the pars intermedia—are derived from the same source as those of the pars anterior. Removal of the posterior pars proper does not remove true secretory cells. Separation of the stalk interferes with the blood-supply of all these cells. It is henceforth necessary, says Bell, to look on the functions of the pituitary as a whole, and to consider this structure as one organ and not two. The fortuitous juxtaposition of the epithelial cells and the pars nervosa, he adds, has probably no relation to the vital functions with which the pituitary is concerned. Even if secretion from the pars nervosa does pass into the cerebrospinal fluid, as has been asserted, Bell believes there is not the slightest evidence to show that it is essential, beneficial or even the normal method by which the internal secretion is taken up by the animal economy. The blood-stream is the real

path for the distribution of the pituitary hormone.

Tumors in the neighborhood of the sella turcica may be imitated experimentally by the introduction of inert, immobile masses. When they produce irritation, glycosuria and emaciation may result, as in the human subject. When the tumors interfere with the blood supply so as to initiate degenerative changes in the anterior lobe, they may give rise to the syndrome dystrophia adiposogenitalis. These facts now experimentally established represent a great step in advance in the elucidation of the obscure functions of a very small yet highly significant portion of tissue.—(*Journal A. M. A.*, Nov. 17, 1917).

Fate of Strychnine in the Body.

Experiments carried out by Hatcher and Eggleston, New York, (*Jour. of Pharmacology and Experimental Ther.*, Oct., 1917), on dogs, cats and guinea-pigs, showed that toxic doses of strychnine may be administered at short intervals during periods up to twelve days, the total amounts so administered being equal to twenty-five times the single fatal dose, without causing perceptible lasting effects. Only a small percentage of the strychnine so administered can be recovered from the urine, and none from the feces. The excretion in the urine usually ceases within twenty-four to forty-eight hours. The tissues of the guinea-pig (exclusive of the skin, which was not examined), do not yield any strychnine, even after the administration of very large amounts provided that death does not take place within three hours after the administration of the last dose. The facts just stated point conclusively to the rapid destruction of the strychnine in the body of the guinea-pig and almost as conclusively to that in the bodies of the cat and dog.

Perfusion of the liver of the dog and that of the guinea-pig with defibrinated blood or Locke's solution, to which strychnine has been added, results in the destruction of a large part of the strychnine, and the storage of a greater portion of the remainder than can be accounted for by the proportion of the perfused fluid held in the liver. The strychnine stored in the liver is loosely bound and the greater part of it may be removed by perfusing once with an amount of Locke's solution equal to several times the weight of the liver. Strychnine is not destroyed in all cases when it is added to defibrinated blood or hashed liver-tissue and allowed to stand at body temperature for several hours, but there is some evidence that small amounts may be destroyed in this way under slight differences in conditions which Hatcher and Eggleston have not determined. Strychnine is destroyed slowly, or not at all, when it is added to the guinea-pig's intestine and its contents and the mixture is allowed to stand at body temperature for twenty-four hours. Strychnine is not excreted in the bile after its intravenous injection into the dog.—(*Ibid.*)

Treatment of Shock by Intravenous Injection of Gum Acacia.

W. H. Bailiss, professor of physiology, University College, London, discusses shock with subnormal blood-pressure from loss of blood (*Archives Medicales Belges, Paris*). The first indication, he says, is to restore the blood to approximately its normal volume, viscosity and osmotic pressure. Unless the injected fluid corresponds in these three points, it will fail to that extent in its purpose. In Bailiss' experiments on animals he found that intravenous injection of Ringer's fluid did not restore the blood pressure to normal. But with addition of six per cent. gum acacia to the fluid, the blood pressure returned to normal. This evidently provided for a normal standard of viscosity in the circulating blood. Army surgeons are finding solutions of gum acacia useful in the wounded when the drop in blood pressure was due wholly or in part to the losses of blood. Bailiss noticed also in his experimens on animals that even the immediate benefit on the blood pressure from the solution of gum acacia surpassed that from ordinary saline solution, while the effect was permanent. The effect of Ringer's solution was quite transient. A six or seven per cent. solution of gum acacia displays the osmotic pressure as normal blood in parchment osmometers. The walls of the blood vessels, the same as parchment, are impermeable to colloids, and osmosis proceeds alike in both. When the osmotic pressure of the colloidal substances in the blood is diminished by dilution with a salt solution, filtration through the glomeruli occurs more rapidly than normal, so that the physiologic saline injected intravenously has a tendency to be eliminated in the urine,

or it infiltrates into the tissues and may induce edema at various points. All who have made experiments on surviving organs perfused with Ringer's fluid have noticed sooner or later a tendency to edema. This does not occur if gum acacia has been added to the fluid. Gum acacia at seven per cent., or gelatin at six per cent., seems to conform to the requirements so far as the viscosity or and the osmotic pressure are concerned, restoring practically normal conditions in these respects without danger for the animal. A four per cent. solution of gum acacia, with 0.9 per cent. sodium chloride, gave excellent results in cats, and a two per cent. solution has been successfully used in the clinic. Gum acacia already contains calcium and potassium. This is the highest concentration used on man to date of which he knows. Gum acacia can easily be sterilized by boiling and filtering through cloth; it is superior to gelatin on this account. It is not supposed to contain proteins, and, hence, anaphylaxis need not be feared.

In shock of other origin, the blood may be abnormally concentrated from loss of water and salts. When this is the case, practically normal conditions can be restored by intravenous injections of Ringer's fluid. If the concentration is due to loss of the whole plasma, then the fluid to be injected should correspond in viscosity and colloid osmotic tension to the blood itself. Ringer's solution with two or three per cent. gum acacia seems to answer the purpose. There might be conditions in which it would be better to use a colloid with less viscosity but higher osmotic pressure, such as dextrin. The effect of hypertonic saline solutions is only temporary as the osmotic balance between blood and the tissues is so promptly re-established.

Bailiss' experiments on cats with pulmonary edema, following inhalation of asphyxiating gas, confirmed that continuous administration of oxygen gas is the logical treatment. In the cats, withdrawal of even a small amount of blood reduced the blood pressure so low that death generally followed. Up to a liter of fluid has been found in the lungs in pulmonary edema in gassed soldiers. Intravenous injection of a two per cent. solution of gum acacia seems indicated, but as long as fluid is seeping into the lungs, it only adds to the fluid unless we can restore the epithelium in the lungs to normal functioning, and oxygen seems the only reliance here. The suffering and dyspnea may persist, however, until the accumulated carbon dioxide has been thrown off by the amplified respiration.—(*Ibid.*)

Arsphenamine.

The Federal Trade Commission, on November 30, 1917, issued orders for licenses to manufacture and sell the product heretofore known under the trade names of "salvarsan," "606," "arsenobenzol" and "arsaminol," under certain rules and regulations. Only the abbreviated term arsphenamine, immediately followed by the descriptive chemical name shall be used on packages to designate the preparation.

The product shall be offered for sale only in colorless glass ampules, containing an atmosphere of an inert gas, and each package shall be plainly marked so as to show the license number, the lot number, the name of the preparation, the actual amount of arsphenamine in the container, and the name and address of the manufacturer. No names of diseases shall appear on any label or package.

The licensee may, if he desires, use upon labels and packages his particular brand or trade name, provided that whenever such is used it shall invariably be accompanied, without intervening printed matter, with the name arsphenamine and the extended scientific name of the article, both to be printed in a specified size and style of type.

Certain tests must be made by the manufacturer of each lot before it is placed on the market, to determine toxicity and arsenic content, records of which are to be kept by him and copies furnished the commission. The total arsenic content shall not be below 29.5 or above 31.57 per cent.

In addition, tests will be made from time to time by the United States Public Health Service, samples of each lot being forwarded by manufacturers to the Service. Officers of the Service or of the Federal Trade Commission are empowered to enter establishments for the purpose of securing samples and conducting inspections.

When lots have satisfactorily passed the prescribed tests, they may be offered for sale, but the right is reserved to require withdrawal from the market of any lot designated by the commission.—(*Public Health Reports*, December 7, 1917).

Editorial.

"Virginia Medical Monthly" Again.

After nearly twenty-two years as a semi-monthly, the journal returns with this number to a monthly publication, in which form it was issued from April, 1874, through March, 1896. As was announced in our last issue, the journal will remain the same size and price, though we expect to average more reading pages to the issue.

The Publication Committee of the Medical Society of Virginia in November adopted this journal as its Official Organ. The Executive Council, at a meeting held about the middle of December, approved the action of the Publication Committee and made, in addition, a number of recommendations.

Owing to the present high cost of publication and war conditions generally, it was thought better to publish the journal monthly instead of semi-monthly and to give a greater concentration of effort to the one issue. Also, to establish a closer relationship with the Medical Society of Virginia, it was deemed advisable that the journal should be published with collaboration of the Publication Committee of the Society, which necessitated the omission, automatically, of the names of our Staff of Associate Editors. This propostion we accepted reluctantly as we have always felt that our Editors added in many ways to the success of the journal. We are glad to note from our correspondence with them, that, while their names will, under the circumstances be omitted, we will continue to have their support whenever possible. We take this occasion to again express to them our appreciation and obligation for the actual as well as implied support which they have given this journal in the seven years of our association.

The three editorals by officers of the Medical Society of Virginia, which follow, are self-explanatory. We believe our readers will approve the action taken and trust they will aid in the new endeavor by hearty co-operation to make the journal a greater credit to this section.

CHARLES M. EDWARDS,
Managing Editor.

Announcement.

The Committee on Publication, appointed at the Roanoke meeting by the Medical Society of Virginia to assume the duties of such committee as set forth in Section V of the Constitution and By-Laws, has, with the subsequent sanction and approval of the Executive Council, made the *Virginia Medical Monthly* the Official Organ of the Society for one year, beginning January 1918.

The Committee on Publication and the Managing Editor, Dr Charles M. Edwards, have agreed upon certain changes:

The Journal will be issued monthly, instead of semi-monthly. This change was made because of the belief that better results might be secured in form, paper, and material.

It will be the Official Organ for publication of the scientific papers, with discussions, presented to the Society at its last session. It will be the means of publication and distribution of the official proceedings of the business of the organization at that meeting. The addresses, original articles, reports and proceedings generally, will be published in this journal and distributed for the information of the members at a minimum of cost. This information will go out to the members in as large installments as space obtainable will permit. It is proposed to send such issues of the journal as contain "Transactions" to all the members. Other issues, of course, will go only to the subscribers; fortunately, a large percentage of the members of the State Scoiety are now subscribers. It is the hope of the Committee on Publication that the subscription list of the *Virginia Medical Monthly* may grow so that each member may get this journal regularly each month.

It is the purpose of the Committee on Publication to obtain a series of short practical articles, covering various special lines of work in medicine and surgery, for publication in each issue of the journal. Believing that the busy physician may find time to read with interest and help some practical work-a-day points in diagnosis and treatment of his cases in a department of this sort, the Committee will endeavor to secure the material. It is hoped that those who are called upon to write these short articles will cooperate cordially and promptly

It is the purpose of the Committee to assist the journal in securing State and County Society news-items for publication. This should be of live interest to its readers. To keep in touch with the progress and happenings

in the organized professional circles of the state can but increase interest on the part of members and at the same time disseminate information among the members which must make for strength and power of the organized doctors of the State.

It is the purpose of the Committee on publication in full cooperation with the management of the *Virginia Medical Monthly*, to make its work, as far as possible, redound to the interest of the State Society. Without radical changes, without incurring any financial liability and without making the Society responsible for mistakes or errors of judgment, it is purposed to use, with Dr. Edwards' help and cooperation, the *Virginia Medical Monthly* as a medium of journalistic exchange for the members of the Medical Society of Virginia for the coming year.

It is, in other words, the purpose of the Committee on Publication to take the material at hand and try, with the assistance of Dr. Edwards, to make it serve as an Official Organ for our Society, hoping that with constructive criticism, interested suggestions, and the cordial cooperation of the members throughout the State, the journal may, as time goes on, be improved in its standard of literary and scientific excellence as well as its material form.

ALEXANDER G. BROWN, *Chairman*
Publication Committee,
Medical Society of Virginia.

Our Official Organ.

The members of the Medical Society of Virginia will appreciate the efforts of the Publication Committee in securing an Official Organ for the Society, under very advantageons terms. It was the happy solution of a difficult problem. With a depleted treasury, a new publication could not be established, and for the same reason the Society could not purchase and pay for the management of an existing journal. The Committee was fortunate in making an agreement with the *Virginia Medical Monthly* by which it becomes the Official Organ, and yet the Society incurs no great financial obligation. Members of the Society who are not subscribers will receive only the special numbers of the *Monthly* with the official proceedings. One of these issues will have a supplement containing the revised Constitution and By-Laws, together with a register of members of the Society.

The Society, through its Publication Committee, will co-operate with the present editor in the direction of articles and editorials. In this way the Society has the opportunity of making the *Monthly* more attractive and more useful and representative of the profession of the State.

It is our hope that all members of the Society will subscribe in order to receive every number, and that they will read the *Monthly* regularly and offer constructive criticisms and suggestions for further improvements.

All members should realize that it is much easier to criticise than to promote, and easier to destroy than to build. So let us pull together and demonstrate that the Society can develop an organ that will be representative of the highest ideals of our profession.

ENNION G. WILLIAMS, *President,*
Medical Society of Virginia.

Salutatory.

To the Members of the Medical Society of Virginia:

You will note from this issue of the *Virginia Medical Monthly*, that this journal has been adopted as the official organ of the Medical Society of Virginia. If there is communication with the spirit world, that this consummation has been accomplished will be most gratifying to our dear lamented friend, Dr. Landon B. Edwards, for the Medical Society of Virginia and the *Virginia Medical Monthly* were very dear to his heart, his entire life was interwoven with the interests of both, the best efforts of his mind and heart were devoted to their upbuilding. Now that they have been brought together, which I know was his cherished ambition, I feel that his spirit will hover over this union, and I trust that the interest of both will be the better served and that both will become of greater benefit to the medical profession of Virginia. This will be our aim and purpose.

We delighted to honor Dr. Edwards when living; we will perpetuate his memory by making *his* journal the medium of communication with the doctors of Virginia. It is especially a source of gratification to me that this tie has been formed, for his memory is still fresh and green in the hearts of the older members of the profession.

At the recent meeting in Roanoke, the Society deemed it wise and best to combine the offices of secretary and treasurer. While I am doubt-

ful of the wisdom of this action, it will be my desire during the coming year, by untiring activity and devoted effort, to further the best interests of the Society and to carry it to a greater state of fruition. Yet, when I pause to consider that war and strife are rampant over the land, and the thoughts of us all are chiefly concerned about the serious matters of life—yea, often, death itself—without your cordial and active co-operation, I, as your executive officer, will be able to accomplish but little. I bespeak the sympathetic activity of each member of the Society, which, if you will give me, will enable me, I trust, to demonstrate that your confidence and judgment was not misplaced.

The papers, proceedings and all communications relative to the Society, will be published in the *Virginia Medical Monthly* during the fiscal year, beginning with the January. 1918, issue, which will be a *special* Society number. Four issues of this journal will be sent during the year to each member of the Medical Society of Virginia, whether he is a subscriber or not; hence, it will practically become your journal and will each month contain matters of interest and profit about your Society, of which you should be informed.

Dr. Charles M. Edwards, the editor of the *Virginia Medical Monthly*, has made most liberal terms with your Publication Committee and has done so at considerable sacrifice, in order to meet the views of said Committee. We are anxious that the journal should be maintained at a high standard, which cannot be done save at considerable outlay and expense on the part of the publisher, over its present cost, owing to the advance of everything that pertains to such a publication. The cost to the Society can be materially lessened if each member of the State Society who is not a subscriber at this time to the *Virginia Medical Monthly* will become a subscriber without delay. It is our desire to make this journal more than worthy of the name it bears—the *Virginia Medical Monthly*. It is hoped that before the year closes, our financial condition will be such that instead of only sending it quarterly, it will be sent monthly to each member. You, *Mr. Member*, can bring this about by your interest and support.

Your Secretary is anxious to prepare a new roster of the membership of the State Society. There have been many changes during the past year in location and address of the members, of which he has not been informed and which he will be unable to get unless each one concerned furnishes it. Will you not do this at once?

The secretaries of the respective county societies will please send me at once a complete up-to-date list of members and officers of each component society in the State, and also a list of those not members, indicating the homeopaths and colored, thus saving the Society a nice sum of money in postage and stationery, and the Secretary unnecessary correspondence.

Many of the members are delinquent in their dues, some for one year, some for several years. Your former treasurer, in his annual report, at the Roanoke meeting, stated that over $3,000.00 was due the Society. This should not be. Won't each one who has neglected this matter take it under serious consideration and remit the amount of his indebtedness and put the Society on a firm financial basis?

The Officers, the House of Delegates to be formed, the Council, and the Committees, are working earnestly for the success and upbuilding of the Society, but the thing most needed is the active co-operation of every County Society and of each individual member. We feel sure that every member is as much devoted to the welfare of the State Society as we are, and shares with us the ambition to see every man do his part toward placing the Society on a solid, efficient basis. To this end, let us join hands, all down the line, and pull together for our common good and make this the most successful year in the history of the Society.

Please let me hear from you at your earliest convenience, and give the information asked for.

PAULUS A. IRVING, *Secretary-Treasurer Medical Society of Virginia.*

Medical Advisory Boards in Virginia.

The following doctors have been nominated by Governor Stuart to be members of the medical advisory boards in their respective districts:

Accomac—Drs. Frank Fletcher, Jenkins Bridge; J. H. Hiden, Pungoteague; G. L. Fosque, Onancock; W. F. Kellam, Onley; Rooker J. White, Keller.

Northampton—Drs. G. W. Holland, Eastville; J. M. Lynch, Cape Charles; G. F. Floyd, Bridgetown; J. Gates Goode, Cheriton.

Norfolk and Princess Anne—Drs. Kirkland Ruffin, J. J. McCormick, L. T. Royster, John F. Woodward, J. W. Hunter, R. E. Whitehead, R. L. Payne, E. E. Feild, C. W. Doughtie, Burnley Lankford, W. E. Driver and A. E. Wilson, Norfolk; Joseph Grice and C. T. Parrish, Portsmouth.

Nansemond and Isle of Wight—Drs. J. M. Gibson, Robt. H. Pretlow, J. E. Phillips and J. E. Rawls, Suffolk; Rea Parker, Smithfield; R. L. Seward, Isle of Wight.

Southampton and Greenesville—Drs. W. T. McLemore, Courtland; J. A. Grizzard, Drewrysville; R. L. Raiford, Sedley; R. H. Cobb, Franklin; E. M. Parker, Emporia.

Mecklenburg, Brunswick and Lunenburg—Drs. T. C. Harris and W. D. Kendig, Kenbridge; G. H. Carter, Boydton; H. M. Snead, South Hill; E. H. Connelly, Alberta.

Halifax and Charlotte—Drs. Geo. A. Stover and H. S. Belt, South Boston; J. D. Hagood, Scottsburg; C. W. Tucker, Drakes Branch; J. B. Bailey, Keysville.

Prince Edward and Cumberland—Drs. P. A. Irving, Peter Winston and J. W. Smith, Farmville; J. D. Terry, Rice Depot; Carter Weisiger, Cumberland.

Nottoway and Amelia—Drs. J. H. Young, Burkeville; W. R. Warriner, Crewe; C. C. Tucker, Blackstone; James Habel, Jetersville; W. Reid Putney, Amelia.

Dinwiddie—Drs. J. D. Osborne, E. L. McGill, J. Bolling Jones, D. D. Willcox, Hugh C. Henry, J. M. Williams and W. F. Drewry, Petersburg.

Prince George—Drs. L. P. Milligan, J. C. Bodow and D. F. Busteed, Hopewell; W. C. Webb, Burrowville; F. A. Ward, Disputanta.

Surry and Sussex—Drs. W. W. Seward, Surry; W. L. Devany, Dendron; J. F. May, Waverly; W. D. Prince, Stony Creek; T. F. Jarratt, Jarratt.

James City, Elizabeth City, Warwick and York—Drs. S. W. Hobson, Jos. T. Buxton, Aaron Jeffrey and C. P. Jones, Newport News; D. J. King and Geo. W. Brown, Williamsburg; G. K. Vanderslice, Phoebus.

Henrico, Chesterfield, Charles City, New Kent, Hanover, Goochland and Powhatan—Drs. McCaw Tompkins, Stuart Michaux, J. E. Warinner, J. A. White, Thos. W. Murrell, D. D. Talley, Jas. K. Hall, A. M. Willis, Douglas Vanderhoof, E. G. Williams, W. F. Mercer, L. T. Price, B. R. Tucker, Manfred Call, H. M. Taylor, R. K. Flannagan, E. P. McGavock, M. W. Peyser, John Dunn and E. M. Gayle, Richmond; C. M. Hazen, Bon Air.

Essex, King and Queen and King William—Drs. B. B. Bagby, A. S. Hudson and F. E. Steere, West Point; E. L. W. Ferry, Millers Tavern; Frank Garrett and W. W. Bennett, Cologne; Claybrook Fauntleroy, Dragonville.

Middlesex, Gloucester and Mathews—Drs. C. M. Rains, Bohannon; A. G. Vaden, Mathews; C. C. Christian and A. C. Palmer, Urbanna; J. W. Smith, Hayes Store.

Lancaster and Northumberland—Drs. F. W. Lewis, Morattico; A. M. Brent and J. A. Rice, Heathsville; L. E. Cockrell, Reedville.

Westmoreland and Richmond—Drs. R. O. Lyell, Warsaw; A. C. Fisher, Emmerton; B. H. B. Hubbard, White Stone; W. N. Chinn, Hague.

Spotsylvania, Stafford, King George and Caroline—Drs. R. J. Payne, H. M. DeJarnette, F. P. Dickinson and F. T. Cassidy, Fredericksburg; T. W. Dew, Bumpass; C. S. Webb, Bowling Green; L. J. Head, Jerrell.

Orange and Louisa—Drs. J. T. Walker, Barboursville; C. H. Moncure, Orange; J. W. Scott, Gordonsville; H. W. Porter, Louisa; H. W. Judd, Mineral.

Culpeper, Madison and Rappahannock—Drs. H. T. Chelf, A. S. Rixey, W. J. Strother and Otis Marshall, Culpeper; R. Lee Taliaferro, Madison Mills; M. L. Dudley, Brandy Station; J. W. Humphries, Viewtown.

Fauquier—Drs. M. G. Douglas, S. W. Maphis and R. W. Garnett, Warrenton; Thos. F. Gill, Marshall; Richard Mason, The Plains.

Alexandria, Fairfax and Prince William—Drs. G. T. Klipstein, W. M. Smith, Hugh McGuire, M. D. Delaney and Llewellyn Powell, Alexandria; Wade C. Payne, Gainesville; W. I. Robey, Herndon.

Loudoun—Drs. H. A. Spitler, Middleburg; W. C. Orr and W. H. Janney, Leesburg; W. D. Sydnor, Hamilton; G. F. Simpson, Purcellville.

Frederick and Clarke—Drs. W. P. McGuire, E. C. Stuart and H. H. McGuire, Winchester; R. C. Randolph, Boyce; A. P. Osborne, Berryville.

Shenandoah and Warren—Drs. W. C. Ford, Woodstock; H. T. Hopewell, Strasburg; W. F. Driver, New Market; R. B. Cullers, Bentonville; M. F. Hansbrough, Front Royal.

Rockingham and Page—Drs. J. M. Biedler

and E. R. Miller, Harrisonburg; L. H. Lewis, Elkton; E. G. Brumback and W. L. Hudson, Luray.

Augusta, Rockbridge and Highland—Drs. Kenneth Bradford, R. P. Bell, A. L. Tynes and F. McC. Hanger, Staunton; H. H. Jones, Doe Hill; O. H. McClung and Robert Glasgow, Lexington.

Albemarle, Nelson, Buckingham, Fluvanna and Greene—Drs. J. C. Flippen, H. T. Marshall, H. S. Hedges, M. L. Rea, E. M. Magruder and W. D. Macon, Charlottesville; R. L. Page, Batesville.

Campbell, Bedford, Appomattox and Amherst—Drs. A. W. Terrell, R. M. Taliaferro, Jas. M. Morrison and Thos. K. Terrell, Lynchburg; J. A. Rucker, Bedford City; D. A. Christian, Vera; Edward Sandidge, Amherst.

Roanoke, Botetourt and Franklin—Drs. Geo. B. Lawson, W. S. Sayers, J. W. Preston, S. S. Gale, W. B. Foster and J. R. Garrett, Roanoke; R. H. Latane, Buchanan; Wm. B. Reese, Taylors Store.

Alleghany, Craig and Bath—Drs. J. C. Wysor and B. H. Tatum, Clifton Forge; A. C. Jones and J. W. Wallace, Covington; C. M. Thomas, Healing Springs; Lanier D. Pole, Hot Springs.

Pittsylvania—Drs. L. E. Harvie, I. C. Harrison, R. B. James, J. M. Robinson and L. A. Robertson, Danville.

Henry and Patrick—Drs. J. W. Simmons and M. E. Hundley, Martinsville; D. H. Mason and J. B. DeShazo, Ridgeway; L. C. Dickerson, Stuart.

Montgomery and Floyd—Drs. W. B. Fuqua, Radford; Wm. F. Henderson and H. D. Ribble, Blacksburg; L. Slusher, Willis; E. L. Lawrence, Floyd.

Pulaski, Carroll and Giles—Drs. W. W. Chaffin, G. G. Painter, R. H. Woolling and C. E. C. Peyton, Pulaski; John A. Tipton and C. B. Nuckolls, Hillsville; F. S. Givens, Newport.

Wythe and Bland—Drs. J. E. Tarter, W. H. Ribble, Jr., J. T. Graham and P. B. Green, Wytheville; J. A. Wagner, Bland.

Smyth and Grayson—Drs. J. L. Early, Saltville; R. E. Hughes, North Holston; E. H. Henderson and R. L. Shuler, Marion; E. L. Caudill, Troutdale; J. W. Bolen, Galax; B. S. Dobyns, Fries.

Tazewell and Buchanan—Drs. W. R. Williams, Richlands; H. B. Frazier, Graham; Isaac Peirce, R. B. Gillespie and M. B. Crockett, Tazewell; E. Bancroft, Davenport; W. E. Ritter, Whitewood.

Washington—Drs. F. H. Smith and A. L. Barrow, Abingdon; W. R. Rogers, Bristol; H. L. Bowyer, Emory; T. D. Hutton, Glade Spring.

Dickenson and Russell—Drs. L. C. McNeer, Dante; J. H. Cox, Honaker; O. S. Burns and T. G. Smith, Lebanon; R. L. Phipps, Clintwood; T. C. Sutherland, Tiny.

Lee, Scott and Wise—Drs. C. B. Bowyer, Stonega; C. E. McNeil, Pennington Gap; J. A. Gilmer and W. A. Baker, Big Stone Gap; P. D. Pence, Darbyville; A. M. Wallace and E. M. Corns, Gate City.

The Seaboard Medical Association Of Virginia And North Carolina,

At its twenty-second annual meeting in Norfolk, Va., early in December, Dr. Kirkland Ruffin, of that city, presiding, elected the following officers: President, Dr. Ira M. Hardy, Kinston; vice-presidents, Drs. William L. Harris, Norfolk, Henry W. Carter, Washington, N. C., and P. St. L. Moncure, Norfolk; secretary, Dr. Clarence Porter Jones, Newport News, Va., and treasurer, Dr. George A. Caton Newbern, N. C., both of the latter re-elected. Kinston, N. C. was decided upon for the 1918 meeting. There were about 200 in attendance at the Norfolk meeting.

Married—

Dr. Wyndham Bolling Blanton, Captain M. R. C., U. S. A., and Miss Natalie Friend McFaden, both of Richmond, Va., January 1.

Dr. Joseph Grice, Portsmouth, Va., and Miss Cornelia Lee Johns, Norfolk, Va., December 22.

Dr. William Curtis Gibson and Miss Helen Borum, both of Suffolk, Va., January 9.

Dr. Harry Hampton Donnally, Washington, D. C., and Miss Bessie Arnold Stearnes, Richmond, Va., December 27.

Dr. Archibald McDowell Bynum, Richmond, Va., and Miss Mary Cecil Baldwin, Farmville, Va., December 22.

Dr. J. Stewart Gilman, who was a graduate of the 1917 class Medical College of Virginia, and appointed an interne at Memorial Hospital, Richmond, and Miss Helena Wyatt, also of this city, the latter part of December.

Dr. Albert Gleanard Wood, City Point, Va., but formerly of Knoxville, Tenn., and Miss

Frances Cary Talcott, Richmond, Va., December 29.

Dr. Drew William Luten, formerly of Hickman, Ky., but recently of the Barnes Hospital, St. Louis, Mo., and Miss Sarah Augusta Pack, Roanoke, Va., January 2. Dr. Luten is now with the U. S. Naval Reserve Force, Great Lakes, Ill.

Dr. Francis Harrison Lee, of this City, but now of the U. S. Naval Reserve Force, at Norfolk, Va., and Miss Margaret Elizabeth Ewing, Salisbury, N. C., December 20.

Dr. Dorsy M. Ryan,

Until recently of Talcott, W. Va., has located in Roanoke, Va., with offices in MacBain Building.

Doctors Needed for Regimental Services.

Maj. Jos. C. Bloodgood, M. R. C., in correspondence with us, states that the Medical Reserve Corps needs most at this time men between 31 and 38, for regimental services.

Maj. Joseph C. Bloodgood, M. R. C.,

Baltimore, has been assigned to active duty and ordered to report to the Governor of the State of Maryland for duty as medical adviser.

Weeding Out Incompetent Medical Officers.

Surgeon General Gorgas, U. S. Army, has ordered that steps be taken for the elimination from the service of all incompetent medical officers. In this category will be placed officers not fully qualified to perform their duties because of mental or physical incapacity, bad habits, laziness, temperamental unfitness or unsuitable previous training. By the provisions of this order, effective December 14, officers assigned to duties that they cannot competently perform, will be transferred and tried in other positions. If mental incapacity is suspected, psychological examinations will be given to determine the fact. No action for discharge will be taken until they have failed in two lines of work, viz., the professional care of the sick and disabled and medical field work, the latter including camp sanitation, handling of men, first aid and transportation of wounded. If unable to fill any of these positions satisfactorily, they will be reported to the Surgeon General as unfit and sent before a board with a view to their discharge from the service.

Dr. L. S. Foster,

Norfolk, Va., recently tendered his resignation as a member of the State Board of Charities and Corrections, owing to the pressure of other work.

Use Of Drugs In New York On Increase.

A statement made by Justice Collins, that in recent years the number of drug victims had decreased fifty per cent., was refuted by R. B. Sands, chief of the drug division of internal revenue of New York, before the Whitney legislative committee, in December. He stated that there are now approximately 300,000 drug addicts in New York City, many of whom are persons of high social standing.

Dr. and Mrs. William G. Painter

And little daughter, of Big Stone Gap, Va., have been recent visitors in this city, while Dr. Painter was undergoing treatment at a local hospital.

Dr. Blanton L. Hillsman,

Of this city, now major in the Medical Reserve Corps, U. S. Army, has been appointed surgeon in charge of post hospital at Ft. Monroe, Va., to succeed Lt. Col. William L. Little, M. C., who has been transferred to El Paso, Texas.

Part Of Camp Greene Base Hospital Destroyed By Fire.

The laboratory and operating room buildings at the base hospital, Camp Greene, near Charlotte, N. C., were totally destroyed by fire, December 30, the loss totalling about $75,000, represented principally by destroyed laboratory apparatus. The fire is believed to have been caused by a defective flue in the laboratory. Much of the operating room apparatus was saved and the loss is said to be covered by insurance. Owing to the fact that frozen water mains had to be thawed before pressure could be obtained, the firemen could only bend their energies to saving the other buildings, about sixty in number. Major W. L. Sheep, M. C., was in charge of this hospital.

Delegates To Roads Meeting.

The following doctors were among the delegates appointed by Governor Stuart to the seventh annual meeting of the Virginia Good Roads Association, which was to convene in this city January 15 for a three days' session: Drs. J. W. Bowdoin, Bloxom; Jas. J. Davidson, Rocky Gap; Miles H. Looney, Deskins; A. J. Hurt, Chester; Geo. H. Sparks, Mitchells; E. L. W. Ferry, Millers Tavern; L. K. Leake, East Leake; William M. Holman, Lee; V. O.

Caruthers, Sr., Ferrell; W. M. Tunstall, Lovingston; R. E. Booker, Lottsburg; E. L. Tompkins, Fine Creek Mills; R. D. Tucker, Powhatan; Wm. B. Daniel, Disputanta; A. B. Smith, Snowville; J. Hampton Hare, Newland; S. B. Ellis, Wakefield.

Dr. James C. Doughty,

Of Onancock, Va., who enlisted in the medical reserve corps, U. S. Army, has been assigned to a hospital at Paris Island, off the coast of South Carolina, and left early this month to take up his work there.

Dr. And Mrs Claiborne T. Jones,

Petersburg, Va., have been the recent guests of friends in this city.

Child Welfare Work By American Red Cross.

Nearly 25,000 children in France are receiving aid from the American Red Cross. Of these, 700 are receiving complete medical care at the hands of American Red Cross doctors, and 3,060 are being treated at the medical dispensaries. In addition, 20,300 orphans and other children in France are being aided by the American Red Cross, directly or indirectly.

The American Red Cross is also aiding 6,000 Belgian children, 1,000 of whom it has in complete charge. This child welfare work of the Red Cross is regarded of immense value not only as a work of mercy, but because it helps insure the welfare of the coming generation.

Dr. Frank L. Wysor,

Who has been stationed at Ft. Oglethorpe, Ga., has been on sick leave following an operation, during which time he visited his parents, Dr. and Mrs. J. C. Wysor, Clifton Forge, Va.

Dr. Charles Edward Wooding,

Winston-Salem, N. C., was a visitor in Charlottesville, Va., about the middle of December, having gone there to attend the marriage of a friend.

Dr. Claude Colonna,

First Lieutenant, U. S. Navy, sent a telegram to relatives in this State about the middle of December, announcing his safe arrival in New York from France. He was on the transport Agamemnon.

Hospital in France for Tubercular Repatriates.

The Ste. Eugenie Hospital at Lyons, for tubercular repatriates returning to France through Evian, was opened December 3. It is loaned to the American Red Cross by the hospital board of Lyons, which supplies the building with heat, light, water and sanitation, without cost to the Red Cross, and with food, linen and disinfection at cost. The American Red Cross provides the nurses, doctors and hospital supplies. Often as many as sixty-five tuberculous repatriates arrive at Evian in one week and, if allowed to return to their homes, would spread infection. The hospital cares for 200 patients in five new hospital barracks and the main building.

Dr. Robert S. Cathcart,

Charleston, S. C., was elected president of the Medical Society of South Carolina, at the annual meeting in December.

Dr. Edward W. Rawls,

Churchland, Va., has succeeded Dr. Sherwood Dix, Port Norfolk, as a member of the Norfolk County Board of Health.

Many Nurses Still Needed.

According to the Official Bulletin of December 29, 37,500 nurses will be needed in the Army Nurse Corps of the Medical Department, according to present estimates based on an army of 1,500,000 men. The present strength of the corps is about 3,800. The present rate of enrollment does not meet the demands. In order to get the enrollments up to the needed number, some of the requirements heretofore imposed are being waived. It is said that there are between 80,000 and 90,000 registered nurses in the country and about 200,000 other graduate and practical nurses.

For the first time in American history, it is announced that women nurses are to be employed on two naval hospital vessels, soon to be ready for service—the Comfort and the Mercy.

Dr. J. B. Abbitt,

Until recently of Appomattox, Va., is now located in Norfolk, Va., with offices in Taylor Building, and is engaged in the practice of his profession in that city.

Knife Better Than Radium in Cancer.

Dr. Francis Carter Wood, head of the Crocker Cancer Research Fund at Columbia University, and his excellent corps of investigators in the laboratories, in their annual report, announced a number of interesting experiments. From experiments on thousands of mice, guinea pigs and other animals, the use of radium in some cases and in insufficient

quantities, was found to result in the spread of the tumor rather than in its reduction. For this reason, Dr. Wood thinks radium inferior to the knife as a method of treatment of the usual cancerous growth, and sanctions the use of radium only in inoperable cases, and then under very strict limitations. While he does not regard radium as a satisfactory method for the cure of malignant tumors, he believes it to be the best palliative treatment in cases of inoperable recurrence after previous surgical removal of the mass of the growth.

Dr. Alan J. Chenery, U. S. N.,

Stationed at Naval Hospital, Norfolk, Va., and Mrs. Chenery, were recent visitors at the home of the former's parents in Ashland, Va.

Dr. Lawrence T. Price

Has been elected by the Administrative Board as chief of the visiting staff of the Richmond City Home, to fill the vacancy caused by the resignation of Dr. Robert S. Preston.

North Carolina To Have Orthopedic Hospital And School.

Call was made on the Governor of North Carolina, December 31, for the $20,000 appropriated by the last Legislature for the buildings in the establishment of the North Carolina State Orthopedic Hospital and School. The location of this institution has been chosen near Gastonia, which town, with the aid of friends of the movement, has raised a like sum of $20,000, to have a $40,000 plant, exclusive of the site. There is in addition to be an appropriation of $7,500 annually for maintenance. R. B. Babbington, of Gastonia, is president of the Board of Directors.

New Disease—"War Dropsy."

It is announced from German medical journals that a new war disease has made its appearance in Germany, known as "War Dropsy." The cause of the disease is believed to be underfeeding or malnutrition and it is stated that the symptoms are very similar to those of beriberi. The disease appeared in Vienna with great suddenness.

Dr. Walter F. Hartman,

Swoope, Va., left in December for a stay of some time in Arizona.

Dr. Joseph B. Greene,

Asheville, N. C., was elected president of the Buncombe County, N. C., Medical Society, at its annual meeting in December.

Dr. S. W. Dickinson,

Marion, Va., early in December spoke to the students of Emory and Henry College on "The Medical Profession and Its Opportunities for Social Service." This was one of a series of lectures given the students on the choice of a profession, and Dr. Dickinson was invited to talk on the medical profession.

Dr. And Mrs. Clifford A. Folkes

Have returned to their home in Roanoke, Va., after spending the holidays with friends in this city.

Dr. And Mrs. Charles Woolwine,

Davy, W. Va., visited relatives in Blacksburg, Va., for the Christmas holidays.

Dr. E. D. Wells,

Clifton Forge, Va., is home again, after a visit to Lexington and Louisville, Ky.

Officers Of County Fair Association.

At the annual meeting of the stockholders of the Shenandoah County Fair Association in Woodstock, Va., January 8, Dr. Jas. H Smoot, Woodstock, was elected president, and Drs. Fred C. Downey, Edinburg, and W. C. Ford, Woodstock, were made two of the directors.

Dr. W. Macon Smiley,

Houston, Va., was a recent visitor in this city.

Dr. Hermann Anderson,

Noel, Va., who was seriously injured in December by the explosion of a gasoline engine, has been improving rapidly.

Child Labor Law To Be Strictly Enforced.

As the labor situation created by the war develops, the National Child Labor Committee will bend its efforts to prevent the relaxation of the child labor laws on the excuse of wartime necessity. All safeguards possible will also be thrown around the labor of women.

Dr. E. L. Griffith,

Who is now a lieutenant in the U. S. Army, visited his family in Clifton Forge, Va., the latter part of December.

Dr. Robert Whitehead,

Norfolk, Va., spent the Xmas holidays at his old home, "Mountain View", near Amherst, Va.

Doctors In Business World.

At the recent annual meetings of Richmond banks, Dr. R. D. Garcin was elected a director of the Bank of Commerce and Trusts and the

Church Hill Bank; Dr. E. T. Rucker of the Manchester National Bank; Dr. J. G. Loving of the South Richmond Bank; and Dr. Stuart McGuire of Savings Bank of Richmond.

Higher Rates Asked For Baltimore Patients.

Hospitals of Baltimore, Md., have asked the city to pay $1.75 a day, per patient, instead of the old rate of 62½ cents, on account of the higher cost of food, medicine, fuel and hospital necessities.

The Kappa Psi Medical Fraternity,

At its meeting in this city, December 20, elected Drs. Roshier W. Miller and T. N. Barnett, both of Richmond, regent and vice-regent, respectively. Dr. R. F. Thornhill, of St. Luke's Hospital, this city, was elected secretary.

T. B. Sanatorium Building Burns.

Brooks Hall, one of the principal dormitories of the North Carolina State Sanatorium for Tuberculosis, at Sanatorium, N. C., was destroyed by fire the middle of December. A large part of the coal supply was lost in the fire. Dr. L. B. McBrayer, superintendent of the institution, was obliged to return thirty patients to their homes.

Base Hospital To Mobilize.

The University of Virginia base hospital unit has been ordered to hold itself in readiness for mobilization between January 1 and 15. It is reported that the idea is to have the unit in France by March 1.

The Pacific Medical Journal,

The oldest journal on the Pacific coast, which has just completed its 60th volume, has been acquired by Dr. William J. Robinson and will be consolidated with The American Journal of Urology and Sexology. The combined journal will continue under the editorship of Dr. Robinson and will be published from 12 Mt. Morris Park West, New York City.

Course For Public Health Nursing.

There is such a demand at this time for public health nurses to help offset the shortage of doctors who have entered the army and navy, that a short emergency course in public health nursing has been planned by the State Board of Health. Any graduate nurse interested in the work, even though she may not be able to take the course at this time, should write at once to Dr. H. H. Hibbs, Director, School of Social Work and Public Health, 1112 Capitol Street, Richmond, Va.

Wanted—To exchange part or all my city property (value $20,000.00), for residence or farm in community needing a doctor. Write full particulars. Address "Doctor," Box 24, Richmond, Va.

Obituary Record

Dr. Thomas James Taylor,

Of Brunswick County, Va., died in Richmond, January 7, aged 80 years. Upon completion of his academic education, he studied medicine at the University of Virginia and later at New York University, Medical College, graduating from the last named institution in 1860. At the beginning of the war between the states, he entered the Confederate army and became captain of Company E, 12th Virginia Regiment. After the war, he resumed the practice of medicine in Brunswick County. He was a charter member of the Medical Society of Virginia anl an ex-president of the Southside Virginia Medical Association. He was prominent in civic as well as medical affairs of his section. Dr. Taylor had never married.

Dr. Theodore C. Janeway,

Professor of Medicine and head of the medical staff at Johns Hopkins University, died of pneumonia at his home in Baltimore, December 27. Since war was declared, Dr. Janeway, who was major in the medical officers' reserve corps, had been doing special research work for the government and had been travelling back and forth to Washington. He became ill after one of these trips, six days prior to his death. Dr. Janeway, who was one of the most eminent physicians in the United States, was 45 years of age, and took his medical diploma at Columbia University College of Physicians and Surgeons, New York, in 1895.

Dr. Samuel E. Lewis,

Washington, D. C., died at his home in that city, November 17, aged 79 years. He was a graduate of the Medical College of Virginia in 1864. During the war between the states, he was in the medical service of Chimborazo Hospital, Richmond, Va. He was a memeber of the American Medical Association and an officer and active worker in the Association of Medical Officers of the Army and Navy of the Confederacy.

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Original Communications.

THE LAFORCE (BLOODLESS) TONSIL ENUCLEATION.*

By CLARENCE PORTER JONES, M. D., F. A. C. S.,
Newport News, Va.

I beg leave to present, for a brief consideration, the LaForce Tonsil Enucleation, which is a thoroughly satisfactory operation and devoid of hemorrhage. The principle is crushing the pedicle in a powerful hemostat for several minutes, forcing the blood to clot under pressure, then excising the pedicle through the clot.

The hemostat has two crushing surfaces, similar to the blades of an artery forceps; an exceedingly thin razor-like knife blade is also provided. The fenestra in which these are situated may be adjusted for large or small tonsils. The tonsil is forced into the fenestra which, on being closed, is converted into a hemostat which crushes all of the tissues immediately external to the capsule of the tonsil. All of the blood vessels which it is necessary to cut are held as if in the jaws of powerful artery forceps, under lever screw ratchet pressure, before the tonsil is excised. Then after there is sufficient clotting in the pedicle so held, the tonsil is excised internal (on the tonsil side), to the hemostat.

It has been only recently that I adopted this operation to the exclusion of all others; since that time I have done the operation thirty-one times without any form of dissection and without hemorrhage. I have here with me the sixty-two tonsils, which I will be glad for any one to examine. I am convinced this operation is a distinct advance in tonsil surgery and that it should be commended.

The instruments necessary are: 1, a mouth gag, which opens the mouth to its full width, like the Jennings; 2, a tongue depressor, which will lift the tongue forward while depressing, like the Weder, large size; 3, a small tonsil forceps, like the Tyding's two prongs; 4, the LaForce hemostat tonsillotome.

Full and complete general anesthesia, preferable ether, is essential.

The gag should press on the upper and lower incisor teeth and should be strong enough to hold the mouth wide open, thus making the anterior pillar tense, which is a necessary advantage to be mentioned later. Having been disappointed with various head-lights, natural light and the like, I have discarded all and had a cold lamp attached to the Jenning's gag which operates from a small, cheap flash-light battery which is on sale at the hardware shops. The light is where it is needed and is out of the way.

Technique.—After complete anesthesia with the patient on his back, the operator stands on the patient's left side for the removal of his right tonsil, and *vice versa*, for the left tonsil. The gag is then inserted, the operator holding the tongue depressor with his left hand. The LaForce hemostat tonsillotome, held in the right hand, is passed obliquely till the fenestra is at the back of the tonsil, but in front of the posterior pillar. Using some force to maintain this position, the depressor now is discarded and the index and middle finger tips of the left hand are placed over the tonsil base external to the now tense anterior pillar and

*Read before the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917.

the tonsil is "gagged" into the fenestra. As the shaft is raised toward the perpendicular, care is necessary to keep the end of the fenestra in place. The anterior pillar is thus everted, its posterior surface is made to be internal and the tonsil is shoved into the fenestra occupying the identical position it does when one gags from nausea. As the tonsil slips through the fenestra the hemostat is closed and held a second to make sure it is properly caught.

If the hemostat is properly on the tonsil pedicle, i. e., every particle of the tonsil and its capsule has passed through the fenestra, the end of the closed hemostat is plainly felt in the region over and external to the anterior pillar; otherwise, a doughy sausage-like mass will be felt. Then also, slight traction on the caught pedicle toward the opposite tonsil makes a depression external to the anterior pillar. The tonsil as seen protruding through the fenestra gives a pretty accurate idea as to the degree of success of the grasp. If failure is noted, relax the hemostat and repeat the process, using the Tyding's forceps to pull through any portion which seems hard to shove through. The tonsil being caught in the hemostat, the ratchet is firmly put on, the mouth gag is released one notch, and slight upward continuous traction lifts the base of the tongue to facilitate breathing; the anesthetist covers the mouth with three thicknesses of gauze and administers a drop of ether now and then to keep the patient still. After two or more minutes the tonsil is caught with the Tyding's forceps, the razor blade is shoved through the pedicle on the tonsil side of the hemostat and the tonsil is now removed. The hemostat is kept in place for one or two minutes longer; then the ratchet is released and the instrument withdrawn.

For the first half minute the anterior and posterior pillars will seem glued together; when they separate the tonsil fossa is seen to be clean, free from every vestige of tonsil tissue and there is no bleeding.

LaForce advises that should strong adhesions about the pillars seem to interfere with shoving the tonsil through the fenestra, there is no objection to dissecting these with any form of dissector prior to placing the hemostat. Should this seem necessary, I would recommend an instrument like the Carpenter dissector.

In calling your attention to this operation, I claim nothing original; while there may be, and so far as I know is, originality in some of the points above enumerated, yet I am very slow to claim it.

The operation appeals to me to be the safest known method for complete removal of the tonsil, with less traumatism to pillar and palate and less post-operative soreness. The convalescence is quick, patients nearly always leave the hospital within twenty-four hours, and there is no hemorrhage, either immediate or post-operative.

3117 *West Avenue.*

DISCUSSION.

Dr. J. A. White, Richmond.—I have never used this instrument, but I have used every one other than this, I believe, that was ever invented for taking out tonsils. I think the remarks of Dr. Jones about the absolute safety of tonsil operations is rather misleading. I have heard of hundreds of deaths from operations on the tonsils. I have known of five or six in my own experience, but not in my own work. At the American Laryngological, Rhinological and Otological Association, which is the biggest collection of throat specialists in the country—or in the world—we have had this discussion again and again and every one of them have laid stress on the fact that a tonsil operation is a major operation; it is an operation of risk and danger; hundreds of deaths have taken place from it; many patients have died from the secondary abscesses in the lung and, therefore, it is not to be regarded lightly. I have had some little experience removing tonsils; I have operated about four thousand times, and still I am not an advocate of removing them just because people have got them. A diseased tonsil should be removed, but not all tonsils are bad tonsils and, therefore, should not be removed.

The method of operating depends on the operator. There is no best method. Every man has his own way and the way he does it best is the best way to do it. Two of the most popular methods are the Sluder operation, which is done very rapidly and nearly always attended by bleeding, and sometimes dangerous bleeding, but it is not suitable to all kinds of tonsils. I have come to the conclusion that the most reliable operation is with a heavy snare (No. 10 wire), which is rigid enough to almost act as a Sluder tonsillotome. If the operation is done properly there is practically no bleeding. My method is always to loosen the anterior pillar and push it back, loosen the posterior pillar, then grasp the tonsil, put the snare on it, push it back, tighten the snare and leave it there. Do the same thing on the other side, put the snare on, clamp it, and leave it a few moments. You can then remove them at your leisure. You can also do it very rapidly. At my clinic, the Virginia Hospital, I operated on five cases, i. e., ten tonsils, in forty-five minutes, without bleeding, except for removal of the adenoids. At that clinic I generally have from four to five to a dozen to operate on. I never see those patients before they come in or after they are

operated on, and I do most of them in the above manner.

I have never had a death from removing tonsils; I have had dangerous bleeding, and I have had to ligate the carotid several times to prevent death. The proper way to do if you have time is to test the coagulability of the blood before the operation and decide whether there is any danger from hemorrhage.

I do not see how, with the instrument shown by Dr. Jones, we can get well behind the tonsil. Sluder has cut down his instrument to a mere shell, because, if thick, it prevents perfect adjustment to the tonsil.

Dr. A. A. Cannady, Roanoke.—There aren't but three objections to this instrument (referring to LaForce instrument). That is a very good instrument, but like all instruments there are more or less objections to it, as Dr. White said. In the first place, this is a patented instrument. LaForce has a patent on it, if I am correctly informed, because some of us were trying to get at a snare that we could use higher in here (indicating), in place of this knife, following out my principle of the snare I got out about twenty-seven years ago, but the instrument dealer said, "You cannot do that; LaForce has a patent on it." That is what we have been informed.

Another thing, this instrument, or the Sluder, or any instrument of this kind, cannot remove 100 per cent. of the tonsils. It is a physical impossibility to do it. Every doctor who has used this instrument, even Sluder himself, claims he cannot take out all of the tonsil; he claims, however, about ninety-eight per cent. efficiency.

I have been using a snare twenty-seven years. When I first commenced to use the snare there wasn't any tonsil snare made. I had Myers, of New York, to make one for me and it very promptly broke about the second time I took out a tonsil in the snare. I sent to Europe to see if there wasn't a snare made heavy enough to take a tonsil out, and the word came back that there wasn't. I kept on trying until I finally got a snare that was large enough and stout enough to take out the tonsil, and, so far as I can find out, I am the first man who ever snared a tonsil out; other men might have done it, but I have not been able to find them. I can go Dr. White a little better; I read the other day that Dr. King removed twenty tonsils in two hours and forty minutes by the watch, without a case of bleeding to amount to anything.

I tried it day before yesterday. We took out five and we took our time to see whether we could do a bloodless operation, and we didn't have five drops of blood. We had blood from the adenoids, of course, and if it is ever necessary to remove a tonsil, if you have a case that you think is a bleeder, you must go slow with turning the snare down, and you can cut them off and have no hemorrhage at all.

I want to say this, as Dr. White said, sometimes one man can do an operation with his finger. I know of a man taking out tonsils with the fingers, and the man who does the operation must develop technique to the highest possibility and probably has a different method from ours.

After you have done a thing twenty-seven years, in regard to Dr. White saying it is so dangerous an operation, and you have had no bad results, no deaths, would you regard that operation as a dangerous operation, when you have done thousands of them in twenty-seven years without a single death or any serious hemorrhage? We had to catch up an artery occasionally and tie it. If you have one of these suction apparatuses you can draw out all the blood you want and have a perfectly clean field. It is no trouble at all.

Dr. Geo. J. Tompkins, Lynchburg.—I am interested in the subject Dr. Jones presented because of two things. The operation is comparatively simple, and in cases in which it is especially adapted, it would seem to facilitate the operative procedure to the surgeon and shorten the duration of the operation and increase safety on account of shorter anesthesia. I am not familiar with the LaForce method, but it strikes me as a very good one, and, although I have been doing tonsillar operations twenty years, I am still willing to learn. I ordinarily practice the method Dr. White described as dissection and snare, and I found it very satisfactory. I believe, though, by the method Dr. Jones described, that in suitable cases that would be preferred to the snare dissection.

Another point that I would like to mention in this connection is the importance of looking out for the posterior pillar in removing tonsils. I have looked into mouths of patients who had tonsillitis—some my own and some were patients of other doctors—and observed the peculiar shape of the posterior pillar. In some instances you find on one side the arch seems very much higher and wider, and sometimes you will observe the arch is usually wide on both sides of the fauces. When you observe that condition, if you will look closely you will find the posterior pillar has been cut away entirely and allowed the arch to dilate, and, I think, until you have observed the conditions, that most any operator is very liable to destroy the posterior pillar. This method would seem to protect the posterior pillar very nicely. You can always see the anterior pillar, but the posterior pillar is hidden by the tonsil and if you are not careful you will cut it away.

Dr. Clifton M. Miller, Richmond.—I am sorry I did not get in sooner; I do not use exactly that, but I do use the snare concealed in a loop, very similar technique of removing the tonsil, except we use a loop snare instead of a blade, as in the Sluder method, and, of course, in any technique of this kind we have to give credit to Sluder, for he first displaced the tonsil from below upward and from behind forward. I have been using this particular method about two years and have done something over 500 tonsillar operations and I have never seen an injured pillar when this method was used.

As far as shortening the time of the operation is concerned, I do not think there is any excuse for shortening any operation, unless, by shortening it, you are getting additional safety, because of the danger to that particular patient from the anesthesia. I find it takes me more time today than ever before. I use continuous anesthesia and I never let my patient go off of the table without a full inspection of the pillars, throat and the region from which I remove the adenoids. In regard to the danger of bleeding, I think no patient should ever be operated on until the blood coagulation time has been taken, and where the blood coagulation time is seven minutes or over, do not operate until you can reduce that, and since doing this I have never been called on to check the bleeding after the patient was off the table. I really have come now to dread the exudation more than the bleeding, and suction and the removal of all of the blood from the throat, never touching the second tonsil until the bleeding of the throat is absolutely checked from the first, will certainly reduce the exudation,

because they do not swallow blood and get to vomiting afterwards. Ninety per cent. of the children operated on by this method eat a soft dinner the next day with perfect comfort, and this is the case with at least seventy-five per cent. of the older patients.

As for the description Dr. Tompkins gave of the breaking of the posterior pillar, in my experience it has been just as often due to roughness in removing adenoids during the last stage with the fingers. They have torn that arched part of the posterior pillar, and when you look in there you see one or both sides of the pharnyx square instead of it having the arched curve. That is not due always to the removal of posterior pillar, but is due to a tearing of the palatopharyngeus muscle, and it has been done by rough handling of a small pharnyx in the finger, handling the adenoids in the last stage.

Removal of the tonsils is a major surgical operation and should be so considered, with previous preparation and rest afterwards. I have come to look upon hemorrhage in the properly selected cases with less dread than I formerly did. I handle my cases of bleeding on the table with good light exposure and if bleeding from any vessel persists I pick it up and tie it off like the surgeons do in their general work.

Dr. C. S. Dodd, Petersburg.—I want to say that I have run an automobile nine years and I never had an accident, but I was on the Nickle-Plate Railroad Company's line and an automobile was struck by the train and knocked on the side of a freight office, and now I am thoroughly convinced that you can have accidents with automobiles and trains.

Dr. Cannaday may have practiced this specialty almost as long as I have lived; I have done about 1,200 cases of tonsillotomy, and I want to say that I know it is a dangerous operation. I want to say that death can and does occur from it, and I will say further about this bloodless operation, that I have tried every operation I have seen. A short time ago I went to New York and I saw this La-Force method tried; still they had bleeding. I heard Dr. Sluder say some years ago that he cut out all the tonsils with his method, ninety-nine per cent. without bleeding. I helped him with fourteen cases; he got them all out clean, but two days after he was wanted to remove six pieces left in there.

A short time ago I went to Chicago to see Dr. Ballenger do his method. I had had some correspondence with him, and he told me he would show me a method which he thought was an improvement over anything I had ever seen if I dreaded blood, and still he had bleeding. I went to Indianapolis, Indiana, and talked to an old gentleman I know, and he said, "Out here where we are, I have a son who can out-Sluder Sluder," and I said I wanted to see him, and I did, but, still, he had bleeding. I will journey to Newport News and see Dr. Jones. I have tried all the methods, but I have come to the conclusion that the snare is the best thing I have ever seen.

Dr. A. A. Cannady.—I do not want to be misunderstood about this operation, because we all know that no surgeon can get out of his saddle on the roadside and take out tonsils, though I have known doctors to get off horses and pull out tonsillotomes and take out tonsils and clip them, but we do not do that now. Of course, it is an operation, but I say when you haven't had any bad results from an operation you can not regard that operation as a very serious one, like some surgical operations. I will admit when I first commenced operating I left part of the tonsils in. I believe every operator did and that is where you had most of the bleeding. Nowadays, we do not do that. It only takes about seven minutes; just take your time; try it sometime, if you are handy with the tools.

Dr. E. W. Dodd, Buchanan.—I probably have no right to speak with authority on the subject, as I do not do special work. There is one danger about it though, in which I almost lost my life. I had an abscess of the lung from having a tonsil removed. I believe that is a very frequent thing. I looked it up and it is fairly frequent, and three out of four men die who have it. I don't know whether it is an aspiration condition or blood wound. It seems to me they ought to take some steps to prevent that by use of suction apparatus. I would like to be enlightened on that before the discussion closes.

Dr. Clarence Porter Jones (in closing).—Mr. President, I am very thankful that this mentioning of something new didn't provoke as much hostility as I have seen on the floor of this Society.

I want to say that I did not intend to mean that Dr. White's method was not safe. Anything in God's world that Dr. White does is safe; we look upon him as the Grand High Priest in Virginia to teach us things. (Laughter). I want to say that anything that Dr. White does is safe, but I did mean to say that I believe this is a safer operation than the snare or Sluder.

I want to thank the gentlemen for the discussion.

As to what the gentleman just said about aspiration pneumonia, I think the profession is taking more notice of that now. At the last meeting of the American L. R. and O. Association, there were quite a few cases reported. We use suction apparatus for the adenoid if there is not much. I lower the head and try to force the adenoids to run through the nose and mouth and not lay the patient horizontally until the bleeding is over. I believe he ought to be put to bed without the possibility of blood being in the larynx or stomach. If you give morphine in very small doses properly, I think you are pretty safe from pneumonia.

PAPILLOMATA OF THE BLADDER TREATED WITH HIGH FREQUENCY.*

By HOMER G. FULLER, M. D., Washington, D. C.

In employing the high frequency treatment for tumors of the bladder, we may have use of the d'Arsonval or the Oudin current.

The d'Arsonval current is a high frequency oscillatory current with high voltage and high amperage; it is a bi-polar current, while the Oudin is a high frequency oscillatory current with high voltage but low amperage and it is a monopolar current. An alternating current is obtained by direct connection or through a transformer. The alternating current enters a coil and in passing through this oscillations are increased. Some favor the bi-polar and others the monopolar current for producing desired therapeutic effects. Either or both are quite efficacious in handling therapeutically

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varied abnormalities or blemishes of different parts of the body, but we are concerned only with vesical papillomata where it is a fact splendid results sometimes are produced through its thermo-electro chemical and trophoneurotic action.

It is quite evident that the high frequency current is the only treatment for inoperable cases. It should, many times, be used as an aid to the surgeon at time of operation and, in addition, it seems useful in promoting resistance of healthy tissues.

In developing and determining the value of the high frequency current, it was first observed that both the d'Arsonval and Oudin currents caused some sort of a beneficial therapeutic action on growths; then, if applied over a small zone, it produced a destruction of tissue. Not until 1910 was it used extensively in the urinary tract until Bier introduced the electrode of the Oudin current through the cystoscope for treating and destroying bladder tumors. Direct application of the spark to the growth causes a blanching, shriveling, then blackening and necrosis of the tissues; the growth more or less rapidly disappearing after several applications each several days apart.

As to the application of the current, it is well to follow certain suggestions: 1. Use a smaller spark gap to obviate unnecessary pain and hemorrhage, also less danger of burning off insulation of wire. 2. The time of a single treatment must vary with the patient's endurance—too great pain is to be obviated both because of the effect on patient and the danger of burning the bladder; then, too, we have the danger of a short circuit occurring. 3. The frequency of the treatment naturally varies, say from three or four days to two or three weeks, according to the cell reaction produced.

There seems to be some divergence of opinion among writers as to the relative efficiency of these two forms of currents, some preferring the bi-polar and others the monopolar. Keyes and Bier have better results from the Oudin, it having greater cauterizing and greater electrolytic action, but Ashcraft finds the d'Arsonval better than the Oudin, arguing that it burns deeper and over a greater area. He considered the Oudin only fit for very small growths, using the d'Arsonval for large growths and where malignancy was suspected. It has been my observation that villous growths on small pedicles gave the most encouraging results, whereas disappointing results were to be found with those having a broad sessile base and where there was thick infiltration of the surrounding tissues, as in cases of malignant changes. Even in these latter cases it does unquestionable good and should be used in treating them, first, while improvement is seen to go on; second, at the time and following a more radical or operative procedure for the removal or attempted removal of the vesical growth; third, later on if cystoscoptic examination reveals any evidence of recurrence of growth. Even advanced cases of bladder tumors treated by operation and fulguration have gone on free from recurrence, from two to five years. In the cases of cures they can be controlled and checked up by repeated cystoscopy. At the suggestion of any evidence of return a few seconds sparking will promptly eliminate any evidence of trouble. Another point to commend the high frequency treatment, especially in supposedly benign tumors, is that it is likely to be more effective than a supra-pubic cystotomy, as so many cases treated radically tend to recur after three years even of the papilloma.

Young prepared an interesting and exhaustive article in November, 1913, reporting 117 cases of vesical tumors, 17 per cent. benign and 83 per cent. malignant, treated as follows: (a), suprapubic excision, 43; (b), fulguration, 19; (c), suprapubic drainage, 22; (d), suprapubic partial excision and destroying base by cauterization or high frequency current, 5; (e), no treatment, 18. He stated benign tumors were infrequent and unless cured almost always became malignant.

His results under the first heading, excision, he regarded as bad, not as good as secured by fulguration, and demonstrated strikingly the inadequacy of suprapubic excision even when great care was exercised to avoid implantation and to remove the tumor in its entirety.

Under fulguration the results showed great superiority of that method over suprapubic excision in benign cases, especially as some of the cases were so extensive that the whole bladder practically would have to be excised. Results were unsatisfactory, however, in nearly all the cases that proved malignant. In three cases good results were gotten by a combination of suprapubic partial excision, cauterization with the Paquelin cautery and high frequency current. Young says, "It is possible

to destroy malignant vesical tumors if the spark is strong enough and the bladder filled with air, so, recently, I have applied fulguration through an open air endoscopic cystoscope. It is evident that extremely thorough cauterization by Paquelin or electricity, can successfully destroy vesical carcinoma if care is taken about preventing implantation and to thoroughly destroy the base."

Young, in benign cases, regards the high frequency current as satisfactory, but especially advocates its vigorous application.

Geraghty, in the *New York Medical Journal*, 1916, says that the experience of the Brady Urological Institute of recent years demonstrates clearly that benign and malignant papillomata should be treated by fulguration, resorting to resection or excision only when intravesical treatment is impossible.

Radium has been a great help in treating the malignant growths and the best results follow placing the radium directly against the tumor.

Uhle and Mackinney, in the *Pennsylvania Medical Journal*, 1916, show encouraging results in a series of cases reported, in twenty-nine of which they used the high frequency treatment; twenty-two were diagnosed benign papilloma, three papillary carcinoma, and twenty-six carcinoma. The monopolar Oudin current generated from a Wappler coil was used. They attempted to destroy as much of the tumor as possible at each sitting, the current being applied continuously and interrupted only when the end of the electrode became fused.

A clinical cure was based upon clearing up the symptoms, especially the apparent absence of tumor growth, as seen by cystoscopic examination made at frequent intervals. Any tendency to recurrence may often be cleared up by a further treatment; recurrences of these so-called benign cases usually respond promptly to further treatment.

Of nineteen cases tabulated, six never returned for cystoscopic examination after a cure had been obtained; thirteen did return, and after seventeen months, appeared in good health.

In the last two or three years there has been little new offered in the treatment of bladder tumors other than an increasing tendency to use the high frequency cauterization in place of operations of the radical type.

The advantages of this treatment are—

1. An anesthetic is unnecessary.
2. Operation is performed by sight.
3. Little pain only.
4. But slight reaction follows.
5. There is no bleeding.
6. No ulcerated surface remains after the slough falls off.
7. Patient is not incapacitated and the progress can be observed from time to time under the cystoscope.

The Farragut.

DIRECT BRONCHOSCOPY AND LARYNGOSCOPE.*

By C. S. DODD, M. D., Petersburg, Va.

Realizing that this is a subject upon which little thought has heretofore been given, I am rather glad to have the honor to bring it to your attention, because, like the urethroscope, cystoscope, proctoscope, etc., it has a field of usefulness that is not to be despised.

History.—The systematic examination of the trachea and bronchi by the peroral introduction of straight tubes was initiated by Killian, in 1896. After being successfully applied in a case of a foreign body lodged in the bronchi, it was recommended in 1897 as a clinical method.

An inspection of the trachea and the entrance to the main bronchi was successfully used as early as 1875, by Voltolini, but it was done through tracheotomy wound, and after him by such men as Pieniazek and Von Schrotter, by aid of a spectrum of the aural type, but it was left to Hacker and Rosenheim to venture to make diagnostic inspection in this "dangerous region," simultaneously. Kirstein, in 1895, began to pass straight tubes into the larynx, but he, too, was greatly impressed by the dangerous nature of the experiment, and refrained from pursuing this illuminating path of such a high degree of reflex sensibility. Killian refuted all the former arguments by systematic method of entering almost the entire bronchial tree; and, so much so, that Ballenger said of him that "this alone is enough to immortalize him in the scientific annals of medicine and surgery, and make his name famed in laryngology."

Jackson, in this country, has done as much to perfect the instruments in throat work as

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any European, and today his instruments are used on every continent of the civilized world.

Definition.—One may ask, what is laryngoscopy and bronchoscopy, and its indications? They are terms used to designate the examination of the larynx, trachea and bronchial tree. Its uses cover a field that is not so limited as one may suppose, and may be divided into two parts: 1. Diagnostic; 2. Treatment.

Under diagnostic uses:

(a) Stenosis of the larynx and sub-glottic space.

(b) Ulcers of the larynx, trachea, and even bronchi.

(c) Tumors and kindred growths.

(d) Foreign bodies of all kinds, from shoe tacks to safety pins.

(e) Children. It is at times next to impossible in struggling children to make an examination, with the indirect method.

(f) Every laryngologist is at time held at bay to know the exact location and condition of many throat ills. The patient complains and continues to do so, the inverted image of the mirror failing to reveal the cause of the suffering like the direct method would plainly do. Especially is this true if the seat of the ailment is sub-glottic or lower in the respiratory tract. And Ballenger says, "With a Jackson's self-illuminating tube, spatula is much superior to indirect laryngoscopy. The growths are brought into a clearer vision and greater accessibility."

Patients and Instruments.—Position of the Patient: He should be seated on a low stool, head supported by an assistant; the neck should be free from tight fitting garments. A hypodermic or morphia and atropine, administered one hour previous to treatment, is the invariable rule.

Anaesthesia. Local and General: Local Anesthesia.—I use alypin almost to the exclusion of all other drugs, cocaine being the second choice.

Mop the throat with whatever anesthetic is selected—*do not spray*, for Brunings declares that the view that the painting of the throat is too trying to the patient, is not justified, and a very much smaller quantity is consumed by this method than is used in spraying the throat, and the untoward effects are very much lessened. In Killian's clinic the use of the swab was considered the only rational method, and Johnston and many others used it exclusively. The applicator is used first to anæsthetize the pharynx, next larynx, then long applicators are passed between the vocal cords and on into the trachea. I ascertain the sensibility of the larynx, by passing into it the laryngoscope suited to the size and age of the patient. If little resistance is offered to the use of the laryngoscope, I now pass the bronchoscope between the vocal cords into the trachea and, with a long applicator saturated with anæsthetic, make applications to the tracheal wall. (Applicator shown by author). The tube is tilted from side to side to note the condition of the region that is being inspected, and at the same time to show the distance the bronchoscope has been passed, since binocular vision is impossible. It is our only way of measuring distance covered. It is estimated that the distance from the upper teeth to the division of the bronchi is about 26 c. m. in the male and 23 c. m. in the female. I used the word "about" advisedly, since the distance cannot be definitely stated, owing to the individual variation of the larynx and trachea. The constant displacement of the bifurcation to the right causes the right main bronchus to be deviated less than the left, and, therefore, it coincides more closely with the prolongation, and is more readily entered than the left bronchus. Before entering either of these tubes, the applicator, saturated with the anaesthetic, should be applied to the walls of both right and left bronchus, and soon to be followed by the bronchoscope. It should be borne in mind that the delicate mucous membrane here more readily absorbs the anaesthetic than the exposed mucous membrane of the larynx and pharynx, so there is no need to wait long before manipulating the instrument. As the instrument is passed from the vocal cords the parts should be carefully inspected. If a new growth is suspected, carefully inspect the subglottic space, and thus on down to the lowest part of the tube that is accessible, and when found remove with the instrument devised for the same. (Instrument shown). If there is an ulcer, make local application with special applicator. If safety pin, collar button, or what not, use the forceps modelled for its abstraction. (Instruments shown).

General anaesthetic is rarely used, and its indications may be divided under three heads:

(a) Reflex movements of resistance.

(b) Reaction to the pain of pressure and stretching.

(c) Physical reaction (fear, etc.)

Contra-indications are such as are contra-indicated in any other condition where local or general anaesthesia could not be used, as prohibited heart, kidney, or respiratory conditions.

About four years ago, we read a paper before the Southside Virginia Medical Association on the bronchoscope, and hinted then that the use of the laryngoscope and bronchoscope as a diagnostic agent had a field. Now we are sure of it.

In laryngeal diphtheria in children, it is next to impossible to see the larynx by the indirect method. The general practitioner has patients showing signs of dyspnea, pallor, and other symptoms of throat obscuration, and the only correct way to diagnose the case is to look into the throat with the laryngoscope.

Repeatedly we have examined such cases and found diphtheria. One case had negative pharynx and larynx, and on entering the trachea the diphtheritic membrane was found in the sub-glottic space and trachea, which proved by test to be caused by Loeffler's bacillus.

Tumors, foreign bodies, etc., can be definitely located with these instruments and often in no other way known to us.

Treatment.—Foreign bodies in the larynx and trachea as well as in the bronchi are, generally speaking, only accessible to the bronchoscope. We wish to cite only two cases:

1. A patient came to our office some months ago, stating she had swallowed a pin and felt same deep in her throat. We anæesthetized the throat and passed the laryngoscope, then the bronchoscope, and, after a long search, located same in tracheal wall.

2. Child, five years old, swallowed a whistle, which lodged in the trachea. After locating same by X-ray, we removed it.

In some forms of benign growths of the throat, this method has proved its value.

Two years ago, Mrs. B., wife of a physician, came to us with papilloma of larynx, which was removed through the laryngoscope. The patient had an uneventful recovery and the voice was restored.

In some cases distressing coughs and asthma can be relieved by passing the bronchoscope into the trachea and bronchi, and treating by direct application ulcers or other such causative conditions. We have treated two such cases.

DISCUSSION.

Dr. A. A. Cannaday, Roanoke.—I want to congratulate the doctor on his successes. I have tried those things. I have gotten out a turkey-bone and a screw off of a molasses can. That is all I have been able to get out. The balance of the cases I referred to Jackson, of Pittsburg. He can get them out better than anybody else in the world. If I ever get anything in my trachea I will go to Jackson.

Dr. Clifton M. Miller, Richmond.—I rise not to criticise the paper, nor say anything except to congratulate Dr. Dodd on the paper. I have done some work in this line. I, like Dr. Cannaday, haven't done a great deal deep down. As far as the deep work is concerned, personally, I have decided to leave it in the hands of those men making a specialty of it. Jackson, for instance, handles his fingers and exercises fingers for the purpose of keeping up on this work daily just like a pianist would, and he has very sensitive fingers. A part of his time is spent devising instruments for aiding in removing foreign bodies. I saw him in Atlantic City, last summer, I believe it was, demonstrate a new one, and by a little turning and passing it down as far as he could reach through a mechanical apparatus twenty inches long, and by a simple twist, closed an open safety pin. It is so simple, we think—"Why didn't I devise something like that?" It is because you are not a Jackson.

But I think mention should be made of Lynch, of New Orleans. He has perfected a suspension apparatus which gives use of both hands while the patient is suspended; the patient is suspended practically on the lower jaw and larnyx, lifting him forward; then Dr. Lynch has both hands free, and I have seen him going into the larnyx with both hands, with elongated instruments, with a knife at the end of a long handle, first remove a tumor and then put small stitches in the mucous membrane of the larynx. He is the only man in the world today who can do it so skilfully. I saw and examined the patient the next day. He was from Pennsylvania, and came down there, and under general anesthesia, with this suspension apparatus, he removed this tumor, put in two stitches and the patient was up the next day with a voice almost as good as mine. We must not forget Southern men when doing this work.

Dr. C. S. Dodd, Petersburg (in closing).—I have just a few things to say. I have been working this about six years. The doctors, in general, didn't take very much interest in this work, but it has, I still maintain, a field of usefulness not to be despised. I recall a time when a lady about a year ago said to me, "I have some head trouble; I don't know what it is, but I want you to treat me." She said, "In the first place, I am just recovering from an abscess of the abdomen." I don't know much about anatomy, but I knew that was rather indefinite. I said, "Where?" and she said, "I don't know where; the doctor never did find it, but it was somewhere close to my stomach; he wasn't sure where it was, but gave me some medicine that made it break in the stomach; he wasn't sure at first, but after he gave me the medicine and I got well he was sure."

That is what is said about diphtheria. That is not fair to the patient. If a man had a leg broken you would use the X-ray if you were in doubt. This will, in many cases, beyond peradventure, show whether they have diphtheria and many other things in the larynx.

OBSERVATION ON UMBILICAL HERNIA.

By L. SEXTON, B. S., M. D., New Orleans, La.

Three per cent. of all hernias are of the umbilical variety. They are most usually caused by intra-abdominal pressure in the adult, while in infants it is from lack of closure of the abdominal ring. Whooping cough, phimosis, straining at stool or urination, all increase the intra-abdominal pressure in the child, thus preventing the closure of the umbilical ring. The congenital umbilical hernia is caused by lack of development of the abdominal muscles and the failure of the umbilical ring to close. The intestines may prolapse with the cord as a bulbous mass, which should always be reduced before the cord is ligated, lest a portion of the intestine be included in the ligature. The condition is rare, occurring about once in ten thousand infants.. The umbilical hernia of the adult contains either omentum, small, or large intestines, which have protruded through the abdominal ring and a split through the linea alba. Oft-repeated pregnancies and straining during delivery can be placed as the most common causes of umbilical hernia in the female. Females are twice as liable as males to this form of hernia, which is usually irreducible.

The anatomical parts of umbilical hernia are the same as in others and consist of neck, sac and body, but the sac is not so well defined in the umbilical as in other hernias, because the peritoneum forming it is often not distinguishable from adhesions with other tissue. The skin over the top of the hernia becomes thinner and attenuated with the age and pressure of the hernia. The tumor may be round, smooth or lobulated. In older persons, there is no such tendency for the rings to close as in children, which is due to the fact that either increasing fat, hard labor, atrophy of the tissue from pressure, or straining, or the omentum becoming adherent to the abdominal ring usually prevents closing.

In long standing cases incarceration and strangulation are frequent complications. There is a heavy dragging weight connected with the tumor, with colicky pains if there is any twisting or strangulation of the bowels. This strangulation may be intra-saccular by the intestines being twisted or caught in the inflammatory process.

The only permanent means of relieving these acute abdominal symptoms is by an operative procedure. When patients will not submit to an operation, trusses, pads, suitable abdominal bandages, rest in bed and purgation may give temporary relief until the consent of the patient can be gained for the radical cure of the case. The average intelligent patient will not hesitate long in coming to this conclusion if the merits of the operation are properly presented. Increased obesity from sedentary habits with constant dragging pains from omental adhesions are a great inducement to the patient to be relieved of the hernia. It is the irony of fate that nearly all umbilical hernias occur in obese patients, and to correct this condition and avoid operating in the bottom of a well of fat, in some cases four inches deep, it is advisable, if the case is not strangulated or suffering severe pain, to use a month or two in reduction of fat and preparatory treatment before the operation is undertaken. From twenty to forty pounds can be taken off of the largest patient, who is willing to assist the doctor in reducing his or her avoirdupois and getting into proper shape for an operation, by avoiding the use of rich soups, salmon, blue fish, salt fish, pork, veal, sausage, hashes, fats, potatoes, macaroni, oat meal, hominy, rice, beets, carrots, turnips, puddings, pies, pastries, cakes, sugar, sweets, milks, cream, malt or spiritous liquor, beer, sweet wines and champagne, and by the reduction of all diet by one-half, together with light exercise and daily purgation by the use of such foods as dates, apples, prunes, raisins with pulverized senna, milk of magnesia, agar, or other purges, which tend to the absorbtion of gases and non-irritation of the bowels. Much of the outer layer of fat can be absorbed by wearing a tight bandage around the abdomen. By this reduction of food and the proper purgation, the blood pressure will be lessened, kidneys and liver relieved of an overworked condition and the operative chance of the patient much improved.

Treatment.—In infancy the tendency of all unnatural openings is to close up. If the child is circumcised for phimosis, the constipation

regulated by diet or medicine, whooping cough relieved, and intra-abdominal pressure reduced, many cases in children may be relieved by the use of abdominal bandages and by the proper application of wide Z. O. strips, so applied as to assist in the closure of abdominal rings and the reduction of intra-abdominal pressure. All of these methods, if given a fair chance for a year or even more, with the intelligent assistance of the parents or nurse, will cure many cases. Others will need operative procedure, the same as in the adult.

Before any operation, the patient should be kept in bed on a very spare diet, thoroughly purged, with an abdominal supporter pressing upon the hernia to try and reduce as much of the mass as possible before operating. This reduction of the hernia may sometimes be helped by elevating the foot of the bed and the application of ice bags, thus relieving the tumor of as much blood as possible. After the usual antiseptic precautions, a transverse elliptical incision is made around the hernial tumor to the base, pushing back the surrounding tissue about two inches from the hernial sac, exposing the aponeurosis of the recti muscle and opening the sac from the side. The neck of the sac on the side is incised by a circular cut over the finger, exposing the contents of the sac and reducing the intestines after separating them from any adhesions with the omentum. The omentum is then ligated in segments in order to insure hemostasis. The edges of the sac should be clamped to prevent its receding into the abdomen; the omental mass is then cut away. The most usual adhesions of the omentum are found at the upper margin of the tumor and around the hernial ring; hence, the sac should be opened at the side of the tumor, because of less risk to the patient. The adhesions can be broken up by the insertion of a finger around the ring and sweeping it gently from one side to the other. As a matter of course, any intestines which may be abraded by this separation should have the raw surfaces covered over by Lembert-Czerny sutures before returning them into the abdomen.

The operator should be exceedingly careful that all bleeding is stopped before dropping the omental stump back into the abdomen. A flap-splitting incision should be made through the aponeurotic and peritoneal structure for from one to two inches, according to the size of the umbilical opening, the peritoneum being separated from the surfaces of the flap. Chromicized mattress cut-gut sutures should be inserted two inches above the upper edge of the umbilical ring, the same suture firmly grasping the lower margin of the ring. The lower flap should then be drawn up by this suture from one to two inches, according to the size of the patient, making a double covering for the ring, and taking the slack out of the peritoneum. The upper flap of the aponeurosis should then be drawn down and sutured by cat-gut to the aponeurosis of the ring below. In inserting the mattress suture, a large bite should be included in the loop, so as not to cut out from pressure in the inflammation which follows. The lateral muscles and aponeurosis should be closed in the same way by sliding one side above the other when it is possible, thus covering the opening with four layers of tissue.

The less the tissue is handled in any operation the better for the patient, but especially is this true in an operation where any subsequent infection means the return of the hernia. Hemorrhage from small vessels should be controlled by clamping and torsion, using as few ligatures as possible. It must be remembered, however, that hematoma will become infected just as likely as the ligature, so all bleeding must be stopped before the wound is closed up. After the operation is finished, before closing the incision, we usually wipe it out thoroughly with half and half tincture of iodine and alcohol to prevent sepsis. We think that the overlapping of the muscles and aponeurosis from the sides, when it can be done, reinforces the peritoneal flap very much and renders the return of the hernia less probable. It is more important to approximate the aponeurosis than the body of the muscle in order to prevent the recurrence of the hernia. After the muscles and sheath have been sutured, the adiposed tissue and the skin should be brought in close appositiou by deep cat-gut sutures. A small drain may be left in the corner of the incision for a short time if there is enough effusion to justify it. A suitable dressing with an abdominal bandage is then applied and the patient confined to bed for three weeks or a month, as the further treatment of the case.

For some time after the operation the patient should eat no gas producing foods, such as hot bread, potatoes, peanuts, starches and

sweets, but should keep the bowels gently open with alkaline gas absorbing laxatives. We have recently operated and relieved two large umbilical hernias in women who have borne many children. They were treated and operated on upon the plan above outlined and were relieved of the embarrassing and uncomfortable hernia. The technique of the operation was very similar to what one sees in the Ochsner and Mayo Clinic.

124 *Baronne Street.*

MODIFIED TECHNIQUE FOR ISOLATING BACILLI FROM SPINAL FLUID IN TUBERCULOUS MENINGITIS.

By DANDRIDGE P. WEST, M. D., Norfolk, Va.

The following technique is a simple one by which, I believe, the chances for success in obtaining the bacilli from the spinal fluid in cases of tuberculous meningitis are increased.

Any one familiar with the old technique of taking the film from the spinal fluid by means

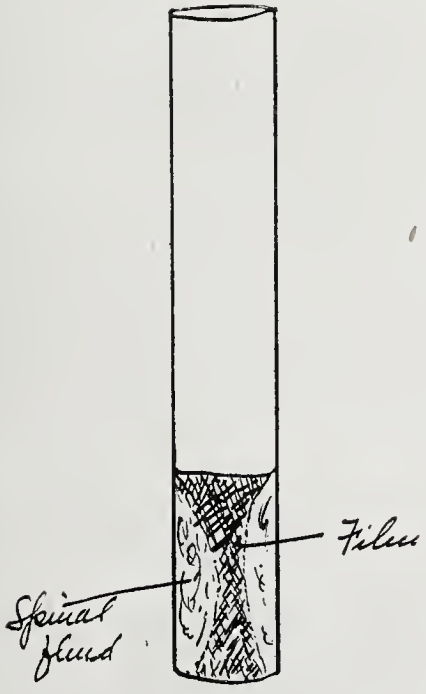


Fig. 1.

of a platinum loop and then attempting to tease the film before staining and mounting will appreciate how difficult it is to obtain satisfactory results. The film of tuberculous meningitis is very like a spider's web—the more it is handled, the more it knots together. The object, then, is to get the film out and on to a cover glass without having to handle or tease it at all:

First, it is desirable to obtain the fluid in several tubes, putting about 5 or 6 c.c. into each tube. The fluid, after being drawn, must

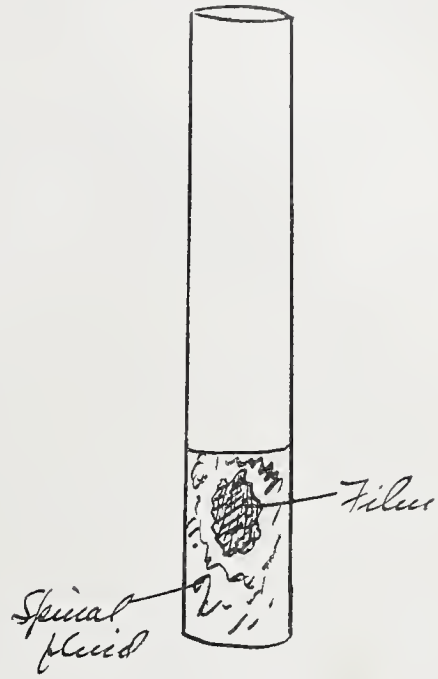


Fig 2

not be shaken in the least, if the best chances for a film formation would be conserved. With several tubes to examine, the chances for success in finding the bacilli are, of course, increased just so much. The fluid is then either incubated or refrigerated for twelve or twenty-four hours, as necessary. In marked cases the film will often form in a very few hours.

No difficulty is experienced in seeing the film.

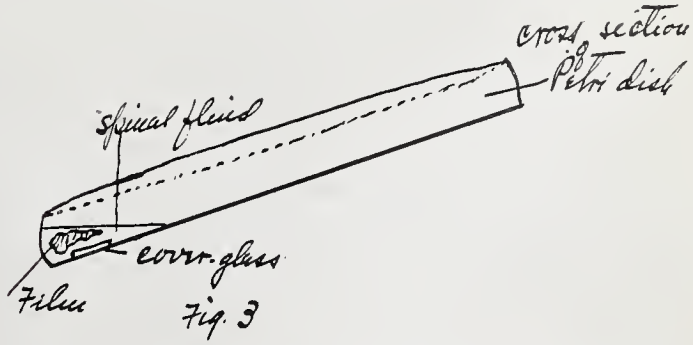


Fig. 3

It is attached to the bottom of the tube and also at the top of the fluid, assuming usually an hour-glass formation or characteristic (Figure 1.)

All that is required now is half of a petri dish, a cover-glass, a laboratory needle, and a pair of pincers. One quick turn of the tube

between the palms of the hands is usually sufficient to detach the film and allow it to float free in the fluid (Figure 2). Slant the petri dish at an angle of about ten or fifteen

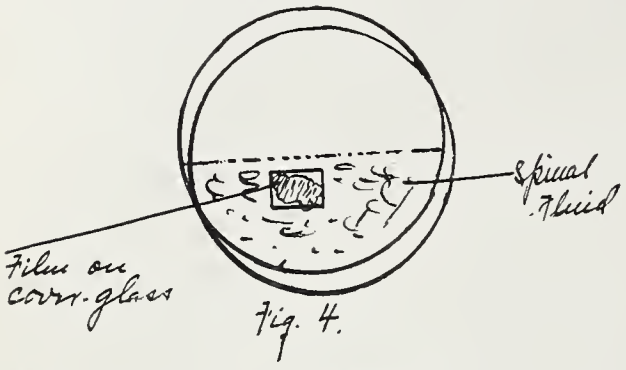


Fig. 4.

degrees, place the cover-glass in the portion most dependent, and pour the fluid and film out into the dish and on to the cover-glass. The film still floats free in the fluid (Figure 3). Push the cover-glass by means of the needle up towards the shallow part of the fluid until the film engages one corner of the cover-glass; the fluid can then be drained off by tilting the dish still further, allowing the film to settle, fan-like, over the cover-glass (Figure 4).

Finally, pick up the cover-glass by means of the pincers, stain, mount on blood-slide and examine.

503 *Taylor Building.*

Practical Points in Current Medicine

Conducted by
PUBLICATION COMMITTEE,
Medical Society of Virginia.

Internal Medicine

Treatment of Cardiac Insufficiency in Valvular Lesions.

This subject is suggested by the increasing frequency of the condition in cold weather.

There are three degrees—mild, moderate and severe, but the therapeutic indications are not quite so sharply distinguished. Certainly in the last two and better even in the first, *rest* absolute, persistent, and unremitting is requisite. This means that the patient *must go to bed and stay there at least a week* and as much longer as symptoms necessitate, and this no matter how well he may feel in less time. If practicable, he should lie low, though usually a back rest and sometimes even a chair may be necessary. Use the bed pan and urinal invariably. No visitors should be allowed and all worries excluded. "Silence should spread the couch of ever welcome rest." Every possible effort must be spared and the heart will thus be saved many beats in a day. Oedematous legs should not be elevated above the level of the waist, as gravity, whose aid is thus sought, would only transfer the fluid to a more embarrassing locality. The bowels should be thoroughly opened once and then kept soft by a mild vegetable laxative, as efforts at defecation raise blood pressure 50 mm.

A milk *diet*, not to exceed two quarts a day, is appropriate in even a mild case for half a week and in the other grades for a longer time, though measured quantities of cereals and fruit juices with moderate amounts of water may usually be added in five or six days. Fluid intake and output must be accurately compared.

Drugs to stimulate the heart, except in the most severe cases, may be delayed twenty-four hours to observe the effect of absolute rest. Remove the load from a fallen horse before applying the spur. A patient that requires drugs needs rest in bed more, but no stimulant ought to be given if the heart is well compensated, even if subjective symptoms and rapid pulse exist. Medication only renders available latent power, but confers no new strength and nature may be cherishing her reserves for a good purpose. Whatever valve is affected, the digitalis group is preferred, but must be given in adequate doses if results are to be expected. The fat free tincture, the infusion, and digipuratum are the best. It takes from twenty-four hours to several days to produce results, recognized by slowing and regulating heart's action, increasing pulse pressure and flow of urine. Administer by mouth every four to six hours, preferably after or with nourishment. Beware of intravenous injection in desperate cases that have been taking the agent by mouth. Strophanthin is best for this purpose when summoned to a severe case that has not had digitalis before, and give only one dose in two days. Camphor in oil is sometimes useful. Caffein is appropriate when the blood pressure is persistently low and the diuresis poor, especially as the sodiobenzoate or sodiosalicylate. Theophyllin and sodium acetate are also good. Strychnine is getting to be a "has-been" in this connection. Calomel, grain one-half to one, thrice daily, is an excellent

diuretic and helps to keep the bowels open, but salivates susceptibles.

Alcohol and tobacco are to be tolerated only in the smallest quantities in inveterate users. Tea and coffee should be restricted.

When able to lie flat, careful passive motions should be begun before getting up, but nothing active until full compensation returns. Special baths and gymnastics are sometimes desirable in convalescents, but usually unattainable in private practice.

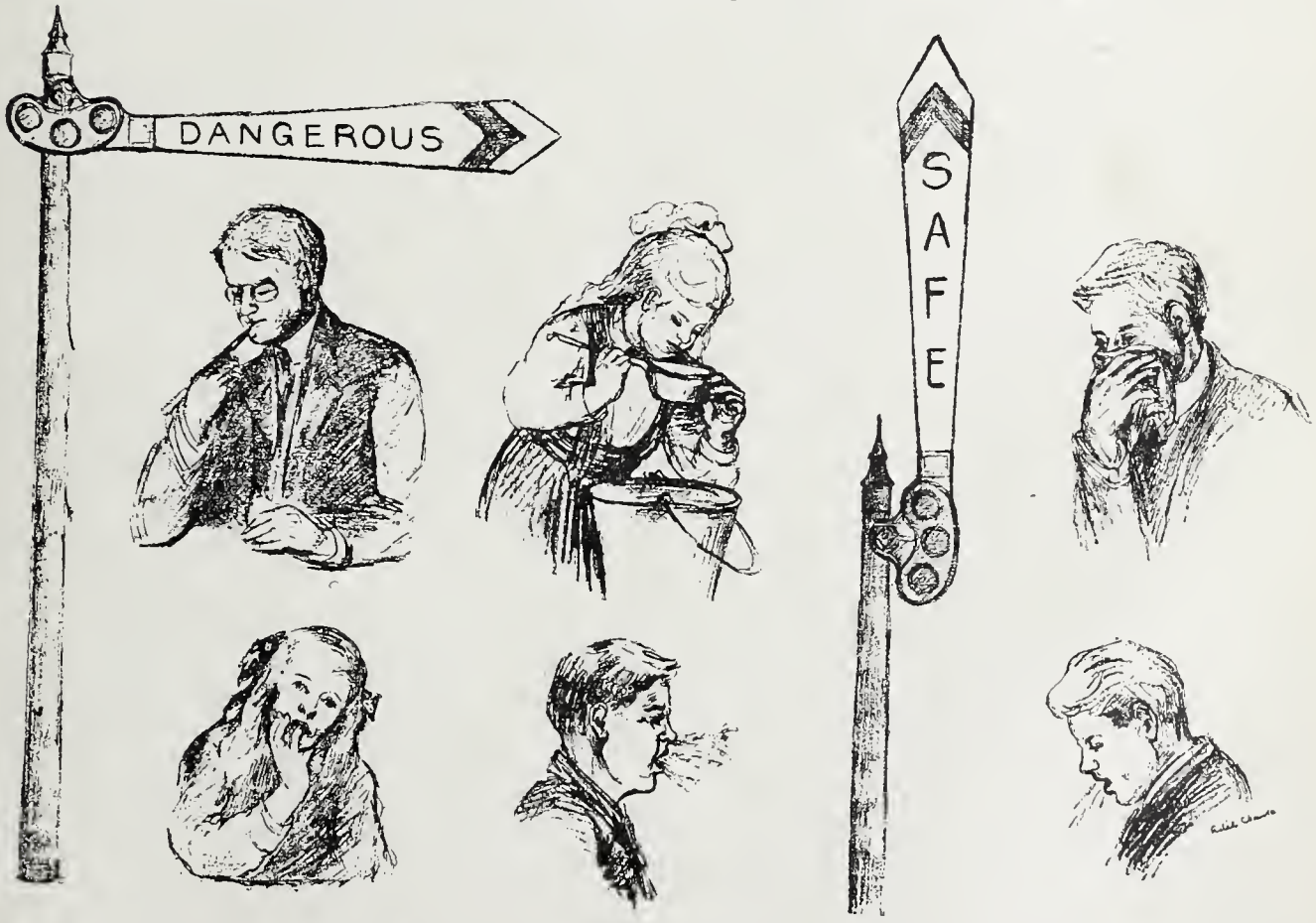
Of special symptoms, dyspnoea and sleep start are met by morphine hypodermically—often grains one-eighth or less suffices. Effusions will yield to tapping which should be deferred to give rest and stimulation a chance, though aseptic puncture of the legs for obstinate œdema can be resorted to earlier. Cyanosis with dilated right heart requires venesection (400 cc. blood). Veronal with hot milk may conquer simple insomnia, and constipation yield to agar with cascara, if milk and cream with oatmeal fail. Avoid the protracted use of salines.

Warn the happy convalescent of his limitations, that recurrence may be postponed.

J. S. Davis.

Public Health

Which will protect you and others



RULE I. **RULE II.**

The State Board of Health has just issued a poster on cerebro-spinal meningitis for popular distribution. A copy of this poster is printed in this number of the *Monthly*.

In view of the fact that there are a great many carriers of the germs of this disease, it is useless to expect to control it by quarantine alone. The cases should be strictly quarantined, as are cases of diphtheria and scarlet fever. Efforts should also be made to locate and quarantine all the carriers. It is, however, impracticable to locate and quarantine all

carriers, and for this reason the most practicable preventive measure is to endeavor to stop the transfer of the secretions of the mouth and nose of every person to the month and nose of every other person. This can be accomplished by following the simple rules printed on the poster. The meningococci die soon after leaving the human body.

In the past month cases of epidemic cerebrospinal meningitis have been reported from Petersburg, Hopewell, Richmond, Henrico County, Newport News, and suburbs of Norfolk and Portsmouth, Norfolk County, Chesterfield, Prince George, Bedford and Charlotte Counties.

Ennion G. Williams.

General Surgery

Colles' Fracture.

Many cases are badly treated because impaction is overlooked.

Radius shortened by impaction, and "silver fork" deformity frequently present. Hand straight or drawn to radial side by shortening of the radius without corresponding shortening of ulna.

Impaction must be thoroughly broken up. Anesthetic necessary. Hand grasped as for "hand shake" and carried forcibly in each direction (flexion, extension to each side, and forward), while assistant holds forearm. When impaction is released deformity disappears and hand inclines normally towards ulnar side.

Best splints are simple thin boards padded on one side with cotton and covered by roller bandage. Splints extend from metacarpophalangeal joints to elbow, the wider one placed anteriorly and narrower one posteriorly. Held in place lightly by three adhesive strips and muslin bandage. To make the same secure the whole may be covered by starch bandage which is light and comfortable. Plaster bandage should not be used on account of weight and hardness. Fingers and thumb are left unbandaged, their free movement preventing stiffness of forearm muscles.

If the dressing gets loose it can easily be tightened by cutting longitudinally and applying an additional starch bandage.

In this fracture as well as all others. X-ray should be used before and after setting, if accessible.

The dressing is usually left on four weeks, though it may be removed and reapplied at any time if occasion should demand.

The resulting stiffness may be relieved in a short time by gentle massage.

Complications, such as fracture of the ulna or carpal bones, should be looked for, though rare.

The important points to be remembered in the treatment of Colles' fracture are: thorough breaking up of the impaction, leaving fingers free, care not to apply splints too tightly, and placing the hand in its normal position with inclination towards the ulnar side.

Southgate Leigh.

Pediatrics

Acute Meningitis and its Management.

Nowhere is prompt differentiation of more importance than in treating patients with acute meningitis, inasmuch as a mortality of one hundred per cent. is to be expected in all forms other than that due to the meningococcus —usually known as acute cerebrospinal meningitis;—in this latter we look for recovery in from twenty to eighty per cent. of the cases. The variation in the percentage of recoveries depends on the matter of treatment.

If treated without the serum, twenty per cent. will recover and of these many will be afflicted in some way. If the serum is used early and in sufficient dosage, eighty per cent. will recover and in practically all the recovery is complete. The proportion of recoveries is reduced with delay in administering the serum.

Unfortunately there are no signs or symptoms that are peculiar to any one type of the disease; consequently, we have to rely on examination of the cerebro-spinal fluid in making a positive diagnosis. If the fluid obtained by lumbar puncture is cloudy, the presumption is that the patient is suffering from some form of septic meningitis, and without waiting for a report on the bacteriological examination, a dose of anti-meningococcic serum should be administered. If the meningococcus is found, the treatment with the serum should be continued; otherwise, it is useless.

This serum is bactericidal and to be of any benefit must be administered into the spinal canal. The dose of choice is twenty cubic centimeters. Before administering it all of the fluid that will should be allowed to escape through

the lumbar puncture needle. After warming it, the serum is allowed to flow in by gravity. This dose is to be repeated each day for four days; if at that time the meningococcus is still present in the fluid, four more doses are to be given, and the fluid is to be examined again and the treatment continued in this way until the fluid is sterile.

Occasionally the fluid will be found to be so thick that it will not run freely. To overcome this, sterile saline solution should be introduced in this way, diluting the fluid and making it possible for a larger quantity of it to escape.

The purpose of the general treatment is to overcome the nervous symptoms. In most cases frequent warm baths and the continued application of an ice-cap to the head will prove sufficient; in others, it will be necessary to use the bromides and chloral, and in some codeine or morphine will have to be given. Owing to the liability of retention of the urine it is important that the attending physician should inform himself of the amount voided each day.

To prevent the spread of the disease, it is necessary that the patient should be quarantined and care taken to destroy all excreta, particularly that from the mouth and nose.

As the meningococcus can frequently be recovered from the nose and throat of one coming in contact with a person suffering from meningitis, it is important that physicians and others attending such cases should be careful to use antiseptic nasal douches immediately after leaving the patient's room.

McGuire Newton.

Ophthalmology, Otology, Rhinology and Laryngology

Effect of Heat in Pneumococcus Infections of the Cornea.

The experiments of Shahan, of St. Louis, in the effect of heat on the eye, have attracted much attention in the ophthalmological world for the past two years and have furnished material for two interesting papers by that author before the Ophthalmological Section of the A. M. A.

The method of applying heat to the cornea has been one of direct conduction by means of hot metal, of a given temperature and for a stated period, placed in contact with the cornea. Shahan has devised for this purpose an apparatus which he calls a "thermophor." This consists, briefly, of a nickel-plated brass tube, in which is fastened a thermometer. One end has a lock nut for holding the thermometer, while the other is reamed out for receiving applicators of various sizes. Each applicator is hollowed out so as to receive the bulb of the thermometer. The whole apparatus, when assembled, is enclosed in a felt lined insulating case.

Shahan's work has been inspired, as he says, by the routine loss of eyes afflicted with pneumococcus ulcers of the cornea, and his efforts have been to ascertain what degree of heat, and what period of application would be necessary to destroy the micro-organisms without producing any permanent injury to the corneal tissue.

Inoculations of pneumococci were made in the corneae of a number of rabbits, and gradually increasing degrees of heat were applied by means of the thermophor for one minute only. When applications of 152 degrees F. for one minute were reached, it was found that the ulcerative process was stopped both bacteriologically and clinically.

In his last article, the second on this subject, Shahan gives in detail the history of one of the rabbits, in which both eyes were inoculated, one being used as a control and the other treated by the heat applications.

The rapidity with which the ulcer yielded to the treatment was both remarkable and interesting. He also recites a number of case histories, in which the results have been most gratifying.

The method of using the thermophor is exceeding simple, according to Shahan's description. A properly shaped applicator is selected and, when the instrument is assembled, the core or brass tubing is held in the flame of a Bunsen burner until the mercury in the thermometer reaches 170 degrees F. It is then enclosed in the insulating jacket and is allowed to cool down until the mercury falls to 156 degrees F. At this instant the tip of the applicator is placed in contact with the ulcer and held there for one minute. During this time the mercury will fall from 5 degrees to 10 degrees F., according to the size of the tip of the applicator.

The treatment of pneumococcic infections of

the cornea has always been more or less unsatisfactory, despite the numerous measures advocated from time to time for their relief. With the advent of ethylhydro-cuprein (optochin), it was hoped that a remedy had been found to successfully combat this type of infection. While some observers have reported excellent results from its use, others have not been impressed with its value. The writer has secured favorable results in the less virulent types of infection, but in severe infections has not been able to satisfy himself that the drug had any curative action.

Shahan's painstaking experiments and rational deductions certainly deserve careful consideration and it is earnestly to be hoped that further reports will show that the method he advocates will be the means of saving many eyes which heretofore have not yielded to the usual modes of treatment.

Hunter H. McGuire.

Neurology

Rational Use of Lumbar Puncture and Interpretation of Findings.

James B. Ayer, in the *Journal of Nervous and Mental Disease*, December, 1917, takes up the question of when the spinal fluid should be examined and answers it by saying it should be in any case in which we need corroborative evidence for diagnosis or more evidence for accurate prognosis or for control, or as a means of treatment. He says that lumbar punctures are contra-indicated in any case of subtentorial growth or large supratentorial growth, and in all cases of choked disks. He further says that lumbar puncture is unnecessary in patients with marked degenerative processes in whom the findings may be predicted beforehand and in those in whom treatment will not be affected thereby. He advises against lumbar puncture in neurotic patients where headache is liable to follow and there are no organic symptoms.

He thinks lumbar puncture is of great value in the meningitides, certain cases of vertigo, uremia and in headaches of toxic origin. He thinks the regular test should be pressure reading, cell count, proteid test, Wassermann reaction, and observations as to the color, clearness and clotting of the fluid.

In supposed syphilis of the nervous system the questions to be answered are:

1. Is syphilis of the nervous system present?
2. Is it active?
3. How active and where situated?
4. Is it amenable to treatment and what kind of treatment?

He thinks the spinal fluid usually speaks conclusively for or against the diagnosis; that one can usually tell whether syphilis of the nervous system is active or arrested. He thinks there are certain cases of long standing which do not give spinal fluid changes. Increased cell count signifies a predominant meningeal inflammation and treatment is apt to be satisfactory.

The findings in tabes are variable, but reactions which are positive in all tests signify activity of the pathological process. He thinks in these cases the Wassermann reaction is most important for diagnosis, and the cell count and globulin to note the effect of treatment. The degree of positiveness is most pronounced in paresis. He thinks there are certain cerebrospinal cases which give negative fluid findings and positive blood reactions. These he believes are entirely vascular. Increased pressure is found in brain tumors, in certain chronic cerebral and inflammatory disorders like syphilis and tuberculosis and higher still, in acute cerebral spinal conditions. He thinks long standing tabetics, especially inactive ones, frequently give low pressure readings, and that spinal cord compression gives a low pressure. Such fluid is usually colorless or yellow, under low pressure, and may or may not clot; globulin is increased and the cells are usually absent, the santhochromia is frequently increased. He does not think, however, that normal fluid pressure indicates the absence of cord compression.

It has been his experience in general that the spinal fluid findings frequently do not conform with the clinical conceptions of the case, but they help in making a more accurate diagnosis and prognosis and to treat more rationally, but when the findings are present they never lie.

The above abstract brings out many interesting points. I have, however, punctured many cases of sub- and supra-tentorial growths and cases of choked disks without ever having an untoward result. In fact, at times the choked disk has disappeared.

It is important to note that, in not a few

cases, the blood Wassermann may be positive and the spinal fluid Wassermann negative, while, on the other hand, the blood Wassermann may be negative and the spinal fluid Wassermann positive.

His remarks about low spinal fluid pressure are most interesting and the clinical findings in low pressure need further observation. It may be that, just as lumbar puncture frequently helps hyperemic headaches, the injection of fluid in low pressure cases with headache, for instance, normal salt solution, might be of temporary benefit in anemic headaches.

I can agree with Dr. Ayer that positive findings do not lie.

In taking blood or spinal fluid for a Wassermann test, it is well to remember that even one drop of water in the test tube may vary the reaction. Therefore, these specimens should be obtained in dry sterilized test tubes.

BEVERLEY R. TUCKER.

Obstetrics

Labor Induced by Castor Oil and Quinine.

Castor oil and quinine for the induction of labor was recommended more than twenty years ago, yet, as very little is seen of the method reported in literature, it may have been tried and abandoned as not worth while.

In the past three years I have used it very frequently and with a varying degree of success. However, the number of successes have been sufficient, both in promptness and efficiency, not to be a mere coincidence with the onset of labor; though I have seen it fail after repeated administration, several days apart.

In looking over my records, I find that it will rarely act if the cervix is not effaced and the os somewhat softened, especially in the primiparæ. It will rarely act in contracted pelvis until the head or presenting part can press on the cervix. In multiparæ it will act much more promptly.

Pains will usually start in six hours and continue until delivery, though in two of the cases labor pains lasted several hours and then stopped without delivery, and several days elapsed before labor set in again.

The dose used should be two capsules of five grains each of quinine, and one ounce of castor oil; if the pains originate and are not very strong another dose of quinine should be given. If the method is not successful in bringing on labor, no harm is done the patient as her bowels are well cleaned out and she is in a better condition than before.

Recently I have had four cases of toxemia in the latter months of pregnancy, and in each case the indication was clear to empty the uterus, but haste was not imperative. I administered the castor oil and quinine in each case, and delivery took place in some in six, and in all within twelve hours, without any artificial help.

In these cases where trauma is so undesirable, the danger of sepsis imminent and the results of mechanical dilatation and delivery so disastrous unless done under aseptic conditions. I was prompted to test the method feeling assured that I could later resort to more radical measures if necessary.

VIRGINIUS HARRISON.

Proceedings of Societies, Etc.

MEDICAL SOCIETY OF VIRGINIA.

Proceedings of the Forty-eighth Annual Session, held in Roanoke, October 30-November 2, 1917.

(*Continued from January*, 1918 *issue*).

Second Day—Wednesday Morning, October 31, 1917.

The President—We will now have the report of the Treasurer.

Report of Treasurer.

October 27, 1917.

To the Executive Council of the Medical Society of Virginia:

Gentlemen: Collections from assessments and initiation fees since the last annual meeting amounted to $3,160.15, as compared with $2,776.15 in 1915-16, $2,384.40 in 1914-15, and $2,663.70 in 1913-14.

We attribute the increase to the fact that the treasurer collected direct from more members individually than during the past twelve month, due, first, to authorization by certain component societies; second, to advice that some societies were non-existent; third, to advice by some local officers that they would not collect the State Society dues, and giving permission to your Treasurer to do so. Credit must be given to many of the local treasurers for their diligence, courtesy and co-operation.

Except as set forth, this office sent no individual statements to others than those supposed to be unaffiliated members; but errors in this respect were discovered upon the appearance of the transactions of 1916, which conveyed, as they did last year, our first information of the chartering of new societies. If fault has been found with your Treasurer on this account, as it was last year, the blame does not lie with him.

Also, for the reason stated, the new societies do not appear in this report.

An indebtedness of $698.58, on account of the transactions of 1915, has been paid. Our only remaining debt is a balance of $96.98, for the transactions of 1916, the funds on hand being more than sufficient to cover it.

Statement of period from October 22, 1916, to January 1, 1917:

Receipts.		
Balance on hand		$ 145.38
Sale of buttons		4.75
Assessments and initiation fees		917.30
Total receipts		$1,067.43
Disbursements.		
G. V. Sheridan, expenses to, in and from Norfolk	$ 48.35	
Reporter's services, Norfolk meeting	150.00	
Secretary's office expenses	50.00	
Secretary's stenographic work	8.33	
Secretary's salary	250.00	
Treasurer's office expenses	29.65	
Treasurer's commission	91.63	
Premium for bonding Treasurer	7.50	
Total disbursements		$ 635.46
December 30, 1916, balance on hand		$ 431.97

Statement of period from January 1, 1917, to October 27, 1917, inclusive:

Receipts.		
Balance on hand		$ 431.97
Interest, Merchants National Bank, Richmond		9.57
Assessments and initiation fees		2,242.85
Total receipts		$2,684.39
Disbursements.		
Printing Transactions, 1915, balance due	$698.58	
Stationery for officers	33.79	
Secretary's stenographic work	53.33	
Secretary's office expenses	110.00	
Secretary's salary	750.00	
Treasurer's office expenses	46.00	
Treasurer's commission	224.27	
Correcting and copying component society lists	10.00	
Printing Programs, Norfolk meeting	39.00	
Executive Council, stenographic work	30.00	
Executive Council, "War Letter"	88.75	
Printing Transactions, 1916; proposed Constitution and By-Laws; postage for same, on account	300.00	
Executive Council, clerk's salary and office expenses	102.50	
Total disbursements		$2,486.82
October 27, 1917, balance on hand.		$ 198.17

Collections from unaffiliated members amounted to $1,081.75. Collections from county societies, through their treasurers and from their members direct, amounted to $2,078.40.

The component societies are tabulated as follows (since October 22, 1916), but do not include those who were dropped for delinquency in dues, nor those on the lists who have never paid dues:

	No. of Members	Paid	Due (including 1917)
Accomac	32	$52.00	$40.00
Albemarle	32	80.00	36.00
Alexandria	6	----	24.00
Alleghany	14	4.00	32.00
Amelia	8	14.00	4.00
Augusta	41	102.00	40.00
Bath	5	10.00	----
Bedford	20	34.00	54.00
Brunswick	10	28.00	6.00
Buckingham	12	20.00	8.00
Caroline	11	2.00	30.00
Carroll-Grayson	*9	16.00	2.00
Charles City, etc	12	22.00	14.00
Dinwiddie	28	8.00	60.00
Elizabeth City	9	20.00	18.00
Fairfax	14	28.00	----
Fauquier	16	6.00	36.00
Floyd	4	12.00	2.00
Frederick-Clark	14	26.00	22.00
Giles	11	26.00	8.00
Gloucester	2	2.00	2.00
Greenesville	7	8.00	14.00
Halifax	17	2.00	32.00
Isle of Wight	7	6.00	14.00
King and Queen	4	----	12.00
King William	6	8.00	12.00
Lee	2	2.00	4.00
Louisa	9	12.00	26.00
Lunenburg	9	18.00	----
Lynchburg	42	72.00	8.00
Mathews	5	----	14.00
Mecklenburg	12	18.00	34.00
Middlesex	2	4.00	4.00
Montgomery	25	48.00	34.00
Nansemond	17	34.00	18.00
Nelson	8	28.00	----
Norfolk	†134	262.00	268.00
Northampton	14	32.00	----
Northern Neck	15	26.00	26.00
Nottoway	8	16.00	12.00
Orange	†6	10.00	4.00
Patrick-Henry	11	26.00	24.00
Pittsylvania	12	30.00	16.00
Powhatan	5	----	24.00
Prince Edward	10	8.00	20.00
Prince George	26	74.00	8.00
Princess Anne	9	14.00	22.00
Prince William	11	20.00	30.00
Pulaski	13	10.00	42.00
Richmond Academy of Medicine & Surgery	225	380.35	158.00
Roanoke	65	82.00	182.00
Rockbridge	12	14.00	24.00
Rockingham	24	----	94.00
Shenandoah	‡15	46.00	8.00
Smyth	14	20.70	26.00
Southampton	21	33.35	46.00
Spotsylvania, etc.	10	22.00	20.00
Surry	5	----	10.00
Sussex	10	----	28.00
Tazewell	17	46.00	26.00
Warren-Page, etc.	12	26.00	4.00
Warrick	25	50.00	----
Washington	9	8.00	22.00
Wythe	9	40.00	4.00
		$2,078.40	$1,812.00

* 8 paid in advance.
† 3 paid in advance.
‡ 6 paid in advance.

The amounts under the column "due" are figured from the year in which the society was chartered.

The total amount due the Society is $3,660.55, as compared with $2,845.35 last year.

Delinquents in dues (of three or more years) num-

ber 57, of which 15 were unaffiliated members, owing $95.35; and 42 in component societies, owing $392.65, a total of $488.85.

Classification of component society delinquents: Two owe $6 each; fifteen owe $6.35 each; one owes $7.35; one owes $8; eleven owe $8.35 each; seven owe $10.35 each; one owes $12; one owes $12.35; one owes $14.35; one owes $18.35, and one owes $20.35 Most of these have appeared on this list for several years, but as they are retained on the membership lists, there is no option but to publish them. One is dropped upon his own request; another, though belonging to a component society, refuses membership in the State Society.

Component society members delinquent as of January 1, 1917:

(Note—*The Publication Committee withholds the names of certain Component Society members and unaffiliated members delinquent as of January 1st, 1917, turning the list over to the Secretary-Treasurer to be further solicited*).

Your Treasurer is very much gratified that the Council has adopted most of the recommendations made by him in his report of last year, and believes that they would add both morally and materially to the welfare of the Society.

Respectfully submitted,

Mark W. Peyser,
Treasurer.

October 30, 1917.

Between the date of closure of the books and this date, collections have been made as follows:

Direct	$ 22.35
Caroline	16.00
Carroll-Grayson	2.00
Charles City, etc.	2.00
Halifax	30.00
Norfolk	100.00
Mecklenburg	6.00
Rockingham	40.00
Shenandoah	2.00
Tazewell	4.00

M. W. P.

Report referred to the Executive Council.

The President—Is there any new business? Are there any reports of special committees? If there is no further business or no further committee reports—

Dr. A. L. Gray—(Interposing). The Legislative Committee has no report to make; there has been no meeting of the Legislature since the last annual session, and, therefore, there is nothing to report.

We will take up the program, that of reading and discussion of papers. The next is "Running Down a Typhoid Fever Outbreak," by Dr. P. S. Schenck, of Norfolk. Is Doctor Schenck present? He seems to be absent.

The next paper is "Carcinoma of the Breast—Some Points in Operative Technique," by Dr. J. W. Henson, of Richmond. (Paper not handed Secretary).

Discussed by Dr. H. E. Jones, Roanoke; Dr. J. Shelton Horsley, Richmond; Dr. A. C. Broders, Rochester, Minn.; Dr. Henson closing the discussion.

Dr. A. B. Grubb, Cripple Creek, read a paper on "The Heroic Use of Nitro-Glycerin and Veratrum-Viridi in Pneumonia." (Paper in hands of Publication Committee).

Discussed by Dr. H. E. Jones, Roanoke; Dr. Grubb closing the discussion.

Dr. F. H. Smith, Abingdon, read a paper on "Abdominal Pain in Children." (Paper in hands of Publication Committee).

Discussed by Dr. John Staige Davis, University; Dr. H. E. Jones, Roanoke; Dr. W. P. McDowell, Norfolk; Dr. W. E. Anderson, Farmville.

The Society adjourned at 1 P. M.

Second Day—Wednesday Afternoon.

Dr. Mary E. Brydon, Farmville, read a paper on "The Treatment of Constipation in Young Girls." (Paper in hands of Publication Committee).

Discussed by Dr. W. L. Harris, Norfolk.

The President, in accordance with the By-Laws, appointed Dr. A. C. Fisher, of Emmerton, to act as Councilor for the First District, in place of Dr. H. D. Howe, and Dr. Burnley Lankford, of Norfolk, in the place of Dr. Frank Hancock, Councilor-at-large, both of whom were absent.

Dr. H. C. Smith, Crewe, read a paper entitled "A Plea for the Abolition of Separate Sections of Medicine and Surgery in the State Society." (See *Va. Med. Semi-Mo.*, Dec. 7, 1917).

Dr. J. Beverly DeShazo, Ridgeway, Va., read a paper on "Society Ailments—Suggestions." (Paper in hands of Publication Committee).

Discussed by Dr. H. E. Jones, Roanoke; Dr. J. Bolling Jones, Petersburg; Dr. W. H. Ribble, Jr., Wytheville; Dr. DeShazo closing the discussion.

The next paper was "Pelvic Appendicitis," by Dr. W. R. Rogers, Bristol. (Absent).

Dr. A. P. Jones, Roanoke, read a paper on "Dakin's Solution in Empyema." (Paper not handed Secretary).

The next paper, "Vaginal Hysterectomy—Without Clamps," by Dr. H. S. Belt, South Boston. (Absent).

A paper on "Cesarean Section—Local Anesthesia," was read by Dr. H. H. Trout, of Roanoke. (Paper in hands of Publication Committee).

A "Report of an Unusual Case of Placenta Previa" was read by Dr. Otis Marshall, Culpeper. (Paper in hands of Publication Committee).

Dr. Stuart Michaux, Richmond, read a paper on "Etiology and Treatment of Prolapsus Uteri." (Paper not handed Secretary).

Discussed by Dr. J. W. Preston, Roanoke, and Dr. E. H. Miller, Danville; Dr. Michaux closing the discussion.

The President again called for the papers of Dr. P. S. Schenck, of Norfolk, and Dr. W. R. Rogers, of Bristol. Both were absent.

The Society adjourned until 8 P. M., to meet at the Jefferson Theatre.

Second Day—Wednesday Night.

The Symposium on "Medical Military Preparedness," given at the Jefferson Theatre, at 8 P. M., was most instructive and entertaining. The speakers, none of whom used manuscript in their talks, were Major Stuart McGuire (see author's draft of remarks, *Va. Med. Semi-Mo.*, Nov. 9, 1917); Major J. Garnett Nelson; State Health Commissioner, Dr. E. G. Williams; Surgeon L. L. Lumsden, U. S. P. H. Service; Col. E. L. Munson, M. C., U. S. A., and Major Henry Jump, attached to the office of the Surgeon-General. Col. Munson also presented moving pictures illustrating the surroundings and depicting scenes in a number of important camps in this country.

Third Day—Thursday Morning, November 1, 1917.

The Society was called to order by the President at 9 A. M.

Dr. B. L. Taliaferro, Catawba Sanatorium, read a

paper on "No T. B. in Sputum." (See paper and discussion in *Va. Med. Mo.*, January, 1918.)

The next paper was "Tuberculosis Among Selective Draft Men in My County—Comments and Suggestions," by Dr. Stephen Harnsberger, Catlett. (Absent).

Dr. E. E. Watson, Salem, read a paper on "The Digestive System in Pulmonary Tuberculosis. (Paper in hands of Publication Committee).

Discussed by Dr. L. G. Pedigo, Roanoke; Dr. H. E. Jones, Roanoke; Dr. Ralph W. Brown, Roanoke, and Dr. B. L. Taliaferro, Catawba Sanitorium; Dr. Watson closing the discussion.

Dr. A. L. Tynes, Staunton, stated that Dr. Samuel Holroyd, President-elect of the West Virginia Medical Society, and Dr. E. H. Thompson, Bluefield, W. Va., were in attendance. The President welcomed these distinguished visitors and extended them the courtesies of the floor, Dr. Thompson responding very gracefully and happily.

Dr. Alexander G. Brown, Richmond, then read his paper on "Oral Sepsis and Heart Disease." (Paper not handed Secretary).

Discussed by Dr. R. L. Raiford, Sedley; Dr. A. L. Tynes, Staunton; and Dr. A. A. Cannaday, Roanoke; Dr. Brown closing the discussion.

Dr. Clarence Porter Jones, Newport News, read a paper on "LaForce (Bloodless) Tonsil Enucleation." (See paper and discussion in *Va. Med. Mo.*, February, 1918).

Dr. H. H. Trout, Roanoke, moved that the privileges of the floor be extended to Major Henry Jump, of the U. S. Army—which was seconded and carried.

Major Jump, after introduction by the President, made some preliminary remarks and submitted a set of resolutions on Venereal Diseases, which were referred to the Executive Council.

The next paper was read by Dr. A. A. Cannaday, Roanoke, on "Iritis—Atropine Sulphate; Glaucoma—Eserine Sulphate."

Discussed by Dr. C. M. Miller, Richmond, and Dr. W. E. Anderson, Farmville; Dr. Cannaday closing the discussion.

Dr. C. S. Dodd, Petersburg, read a paper on "The Bronchoscope and Its Uses." (See paper and discussion in *Va. Med. Mo.*, February, 1918).

"Resection of the Uterus as a Conservative Measure" was the subject of a paper by Dr. Charles R. Robins, Richmond. (Absent).

The next paper, "The History of Infection," by Dr. W. B. Barham, Newsoms. (Absent).

"Radio-Therapy—Its Relation to Surgery," was the subject of a paper by Dr. T. S. Johns, Abingdon. (Absent).

This program completing the work for the morning session, the Society adjourned until 3 P. M.

Third Day—Thursday Afternoon.

This session of the Society was called to order by the President at 3 P, M.

Paper was called for on "Localized and Peripheral Neuritis from Unusual Causes—With Report of Cases by Dr. J. Allison Hodges, Richmond. (Absent).

Dr. W. H. Higgins, Richmond, read a paper on "The Diagnosis of the Higher Grades of Mental Defect." (Paper in hands of the Publication Committee).

Discussed by Dr. L. G. Pedigo, Roanoke; Dr. E. T. Brady, Roanoke; Dr. B. R. James, Danville; Dr. G. M. Maxwell, Roanoke; Dr. Higgins closing the discussion.

The President—The hour has arrived for the report of the Executive Council.

Report of the Executive Council.

Mr. President and Gentlemen of the Society:—Your Council begs to make the following report:

The first meeting of the Council was held Wednesday morning at 9:30 A. M., with all members present except Dr. F. H. Hancock, who was represented by Dr. Burnley Lankford, and Dr. H. D. Howe, who was represented by Dr. A. C. Fisher. The Secretary and the Treasurer both appeared before the Council.

At this session a committee appeared before the Council relative to the re-organization of the County Societies of the Southwest portion of the State. This committee was heard and action taken which will appear later under recommendation.

The afternoon session was preceded by a conference with delegates authorized by the different County Societies. At this conference the proposed changes in the Constitution were considered and the changes before you are the product of this conference.

RECOMMENDED, That the changes in the Constitution and By-Laws, as represented in the printed copy distributed to the membership of the Society, be adopted with the following exceptions:

Page 5, Article 1, Section 1, B, add in first line after "Shall be (1)" Physicians and Surgeons residing without the State and not eligible to active membership.

Page 4, Article 8 of Constitution, add as follows: (3) Delegates from District Societies.

Page 8, Article 5, of the By-Laws, Section to follow section 1: Each District Society embracing not less than 10 counties shall be entitled to elect to the House of Delegates, one member each year.

Page 4, Article 13, after "immediately" insert "upon adoption."

Page 16, Article 16, after "immediately," add "upon adoption."

RECOMMENDED, 1. That the Council, upon request, approve the formation of hyphenated Societies in Southwest Virginia, to consist each of two or more counties, provided, however, that the component Societies now existing in the embraced area agree to this by resolution.

2. That the President of the State Society appoint a committee* to co-operate with the members interested and that the Council grant a requisite charter upon proper application.

RECOMMENDED, That Dr. H. U. Stephenson, of Toano, be paid $100.00 at once on his bill of $200.00, for services rendered the Legislative Committee. The rest of the amount to be paid as soon as practicable.

That Dr. Stover be requested to send to the Council itemized statement of his expenses at the last session of the Legislature, that they may be met by Society.

RECOMMENDED, That the dues of members on active duty in the service of the Army or Navy of the United States be remitted during the continuation of the war.

RECOMMENDED, That the money received from the exhibits at this session be turned over to the local entertainment committee to help defray the expenses of this session of the Society.

A communication from the Virginia State Board of Medical Examiners, relative to the employment of an attorney to co-operate with the Board in the enforcement of the Medical Practice Act, was con-

*The President appointed the following committee to carry out the provisions of Section 2 of this report: Drs. W. F. Drewry, E. L. Kendig, P. A. Irving, S. W. Dickinson, and J. R. Garrett.

sidered and continued for a committee of the new Council.

The books of the Treasurer were audited and found correct.

Dr. Wm. F. Drewry, of Petersburg, offered the following resolution:

Whereas, the specific infections known as venereal diseases, have been very prevalent in times of peace, and threaten to become much more generally disseminated during the time that social relations are disturbed by the war; and

Whereas, these diseases are easily communicable, often innocently acquired, and when not treated, or inadequately treated, cause much physical disability, mental and nervous disease, and premature death, decrease the birth rate, and seriously affect many of the surviving children of infected persons; and

Whereas, the European armies have suffered severely during this war from venereal diseases, and the United States Government is endeavoring to prevent the spread of these diseases among our military forces, and the sources of venereal infection, from which soldiers and sailors may suffer, are to be found among the civilian population, and receive their treatment from civilian physicians; and

Whereas, at this time, when our national welfare is in peril, our love of country inspires us to guard the health of our communities even more zealously than heretofore; therefore, be it

Resolved, That the Medical Society of Virginia heartily endorses the efforts being made by the Government of the United States to protect the military forces from venereal infections, and to this end pledges its hearty co-operation; and be it further

Resolved, That this Society believes it desirable, as a war measure, that the facilities for the treatment of venereal diseases should be further increased, and that a committee of this Society, consisting of five members, be appointed by the President, to study the developments in the control of venereal diseases since the beginning of the European war, and to place such information as it may gather, at the disposal of any Board of Health or Medical Society of this State, when requested to do so by vote of its members; and, be it

Resolved, That copies of these resolutions be transmitted to the Surgeon General of the Army, Navy, and Public Health Services, and to the sub-committee on Venereal Disease of the Council of National Defense.

The above resolutions were, on motion, adopted.

On a special resolution, Dr. Paul Johnson, of the National Council of Defense, was allowed a special place on the program to present the problem of Venereal Diseases.

Your Council begs to nominate the following officers and committee:

For President, Dr. Ennion G. Williams, of Richmond.

For First Vice-President, Dr. S. W. Dickinson, of Marion.

For Second Vice-President, Dr. Harry T. Marshall, of Charlottesville.

For Third Vice-President, Dr. C. D. Barksdale, of Sutherlin.

For Secretary-Treasurer,* Dr. P. A. Irving, of Farmville.

*The combination of these offices was recommended but names were nominated for the combined and separate offices, according to the decision of the Society. The offices were combined.

For Secretary, Dr. P. A. Irving, of Farmville.

For Treasurer, Dr. M. W. Peyser, of Richmond.

For Delegates to the A. M. A.: Dr. W. E. Anderson, of Farmville; Alternate, Dr. E. T. Brady, of Roanoke.

Dr. Southgate Leigh, of Norfolk; Alternate, Dr. G. A. Stover, of South Boston.

For Medical Examining Board of Virginia:: First District, Dr. J. H. Ayres, of Accomac; Second District, Dr. P. St. L. Moncure, of Norfolk; Third District, Dr. J. E. Warinner, of Richmond; Fourth District, Dr. J. Bolling Jones, of Petersburg; Fifth District, Dr. R. S. Martin, of Stuart; Sixth District, Dr. J. W. Preston, of Roanoke; Seventh District, Dr. P. W. Boyd, of Winchester; Eighth District, Dr. S. W. Maphis, of Warrenton; Ninth District, Dr. W. W. Chaffin, of Pulaski; Tenth District, Dr. Robt. Glasglow, of Lexington.

Your Council nominates the following standing committees:

Membership Committee—Dr. W. D. Turner, Chairman; Dr. Geo. J. Williams, Dr. J. E. Knight, Dr. W. F. Driver, Dr. Frank H. Smith.

Legislative Committee—Dr. H. U. Stephenson, Chairman; Dr. Paul W. Howle, Dr. D. M. Kipps, Dr. C. H. Rolston, Dr. T. S. Henning.

Necrological Committee—Dr. C. M. Edwards, Chairman.

Judiciary Committee—Dr. Chas. Grandy, Chairman; Dr. Edward McGuire, Dr. L. T. Royster, Dr. Joel Crawford, Dr. E. F. Reese, Dr. Virginius Harrison, Dr. W. W. Wilkinson.

Place of next meeting, Richmond, Va.

The subject for discussion and the participants have been turned over to a special committee, who will report at an ad interim meeting of the Council. The probable subject will be "Medical and Surgical Problems Connected with the War."

The Council desires to nominate for Honorary Membership, the retiring president, Dr. Geo. A. Stover.

The Council announces the election at this session of Dr. Chas. H. Davidson, of Lexington, to succeed Dr. W. F. Hartman, as Councilor of the Tenth District, whose term expires at this session.

Two Councilors at large must be elected at this session. The new Council will convene immediately at the close of the election.

Respectfully submitted,

WM. F. DREWRY, *Chairman.* THOS. W. MURRELL, *Clerk.*

After thorough discussion, a stenographic record of which the Publication Committee expects to publish in a subsequent issue, the above report of the Executive Council, as amended, was adopted.

(To be continued.)

NORFOLK COUNTY MEDICAL SOCIETY.

Reported by EDWARD D. STARKE, M. D., Norfolk, Va.

This Society was called to a special meeting on Friday, January 11th, to meet Major Henry D. Jump, of the War Department, who made an appeal to its members for more medical volunteers.

He puts the needs of the Army for capable men in very urgent terms, and showed that greater effort would have to be made,

and greater sacrifices endured if we hoped to accomplish the end in view.

On the whole the report was rather gloomy as to the material already in service. More internists are needed, and more men trained for specific work. He stated, however, that the Department is making every effort to adjust matters, and place men in positions for which they are best suited.

At the Surgical Section's monthly clinic on Monday, January 14th,

Dr. P. St. L. Moncure read a very interesting paper on "Conservative Surgery of the Ovaries and Tubes." He stated that the trend of surgery of the female generative organs is leaning decidedly to conservatism, and that this is as it should be. They should not only be preserved whenever possible, but their relationship to other structures should be preserved. The foremost reasons for this preservation and proper relationship are:

1. The hope of a possible pregnancy, often very encouraging to the patient.

2. The greater certainty of a normal menstruation.

3. The preservation of the trophic influence.

When leaving a portion of the ovary, for instance, we should be sure that we leave a functionating portion that will ovulate, and continue to do so as long as possible. He has seen a number of cases operated on, where this rule was disregarded, and the menstrual function would continue for a little while and then stop; whereas, if a functionating portion of the ovary had been left, the flow would have continued to the normal climacteric.

He has found that the cause of sterility may be in the uterus, the tubes, or the ovaries, or all three. The most frequent fault is in the tubes.

He stated it is rare upon examining the pelvic organs of any woman that we do not find one or both ovaries in some measure cystic. Often the ovary is literally made up of small cysts. The question arises as to the best method to adopt in these cases. Dr. Moncure thinks it is best to leave the ovary alone until it gives ugly symptoms. Destroying the cysts with cautery, puncturing them with a knife, or removing the diseased portion of the ovary, have all been tried, but he thinks that the less that is done the better, in proportion to the symptoms arising.

Plastic work on the tube has, in Dr. Moncure's opinion, the greatest field of usefulness, in-so-far as restoring the ability to become pregnant is concerned. Most sterile women whom he has examined have shown the fault to lie in the tube and generally in the occluded ampulla. He splits this open and sutures the fimbria back so that it cannot close. The ovary is then fixed as close as possible to the opening. He has cut out sections of the tube, and made button hole openings in them, but without demonstrable success.

It is wise to always bring the ovary as near the opening in any case as is possible, to strengthen the chance of the ova being caught up by the tube.

Dr. Southgate Leigh showed a case of a fractured zygomatic arch, that he had elevated to normal position through the mouth. An incision was made close to the alveolar process under the fracture and a blunt instrument forced in under the depressed fragments; by properly applied force the fracture was reduced and the wound in the mouth closed and kept clean. Perfect anatomical condition was restored.

Dr. Leigh also read a paper on the "Repair of Complete Perineal Tears." His operation, a modification of Tait's differs from that in the method he has of loosening up the rectum and suturing the rectal tear first. That is, he turns the rectal mucosa in upon the lumen of the gut. A row of chromic gut sutures is then placed over the rectal sutures, drawing the retracted perineal muscles back into place. As many sutures or rows of sutures as are needed are thus placed and the mucous covering sutured over the deep sutures.

The deep sutures are fortified by two or three deeply placed silkworm-gut sutures that take in a sufficient amount of tissue to support the weaker structures until repair takes place.

His operation was illustrated with original drawings, showing the different steps of the operation.

The papers were freely discussed by the Society.

ROANOKE ACADEMY OF MEDICINE.

At the regular meeting, December 17, 1917, Dr. R. M. Wiley, first vice-president, in absence of Dr. H. H. Trout, who was attending meeting of Southern Surgical Society in Florida, called the meeting to order.

Dr. Slicer had a paper on "Follicular Tonsillitis," which, although he disclaimed originality, was practical and to the point. It gave rise to an enjoyable discussion, participated in by Drs. L. Davis, Kolmer, Garrett, Strickland, and E. E. Watson. Some diversity of opinion was developed and a good many points worth while were brought out.

The other essayist announced for the evening, namely, Dr. Darden, having been detained by illness in his own family, his place was filled by *Dr. Wiley*, who called Dr. Garthright to the chair, and read a "Report of Carbolic Acid Poisoning, with Recovery of Patient." This was discussed by Drs. Preston, E. E. Watson, and Kolmer.

Some business matters had to go over by reason of the small attendance, there being but thirteen fellows and two visitors present.

Regular meeting, January 7, 1918, called to order by Dr. R. H. Garthright, second vice-president.

Minutes read and approved. No clinical cases presented.

Dr. Pedigo was asked by the president, Dr. Trout, to read an inaugural address delivered at a recent meeting of the Southern Surgical Society by Dr. William Haggard. This paper, couched in the most superb English, was of intense interest, dealing with world affairs, and more particularly with the doctor's part in the great war. The Academy was fortunate in securing loan of the manuscript through Dr. Trout. Dr. Pedigo's rendition was worthy of the subject matter, and he was heard with close attention.

The Academy enjoyed yet another treat in the lecture of an invited guest, *Rev. P. B. Hill*, missionary to Korea, who dealt with conditions in that country from a medical point of view. He told of the deplorable lack of sanitation, of the horrible diseases which abound, of the lack of medical men and of medical knowledge, the filth, the insect pests, the difficulties of travel, and he illustrated his subject by voluminous and beautiful lantern slides in color. He likewise exhibited some of the native crude surgical instruments, and the charms and amulets by which the superstitious attempt to drive off disease, and carried on a short conversation with his young sons to give an idea of the sound of the Korean language.

Twenty-six fellows and six visitors present.

Regular meeting, January 21, 1918. Dr. Trout in the chair.

The first essayist, Dr. Darden, was not present when his name was called.

The feature of the evening was a lecture by an invited guest, *Dr. Hubert A. Royster*, of North Carolina, who spoke on "Further Consideration of the Sigmoid Adhesion." Dr. Royster presented his subject in a most pleasing manner, and illustrated it with lantern slides. He took a stand in opposition to some hitherto cherished theories, but did not claim this affection was responisble for every abdominal ill.

His paper was liberally discussed, Drs. Gale, Preston, Brady, A. P. Jones and Trout taking part.

A blinding snow storm, at the time prevailing, was responsible for much smaller attendance than would ordinarily have been present to hear a man of Dr. Royster's reputation, only eighteen fellows appearing.

E. P. Tompkins, M. D. *Secretary.*

The Health Officer encounters some of life's little ironies in the course of his work. "See that jar of mince meat," he remarked to his visitor. "Do you observe anything peculiar about it?" The visitor had to acknowedge he did not. "Well,"the man of charts and test-tubes continued, "it was sent in by a lady who complained of that horrid whitish substance coating it, very rich in suet it is, and the suet is what she could not understand!"

He squinted at the contents of a beaker, then he went on, "Reminds me of a sample of cream once sent in here with a note from an aggrieved purchaser. The note read 'I am sending this cream simply for your inspection. I have changed my dairyman so the result does not particularly concern me, but I want you to see what sort of adulteration with gum or something is practiced on people.' And, behold, when I tested it, I found it perfectly good wholesome cream, and instead the twenty per cent. cream for which the customer paid, this was *forty* per cent. cream."

Analyses, Selections, Etc.

Conducted by
MARK W. PEYSER, M. D., RICHMOND, VA.
Secretary Richmond Academy of Medicine and Surgery, etc.

Twilight Sleep.

To *Medicine and Surgery* for August, 1917, Dorland contributes an article in the course of which he has this to say of twilight sleep:

The desire to alleviate the suffering of parturition, at least to an appreciable degree, is universal, and various suggestions along this line have been made from time to time. About fifteen years ago, a pretentious move in this direction advocated the use of narcotics to deaden the pains of labor. Not only abroad, but in this country as well, this suggestion was thoroughly tested, only to be reluctantly abandoned, because of the serious and even fatal results to both mother and child which followed in many cases. A few years ago, the method was revived with certain improvements, and having been adopted by the Freiberg Clinic it was widely exploited in Germany and France and more recently here under the absurd name "twilight sleep." Enthusiastic followers of the scopolamine-morphine method sprang up as if by magic all over the country, and extravagant claims were circulated to prove its excellence and superiority over similar methods in vogue.

In the meantime, the maternity departments of many reliable hospitals instituted a careful, scientific study of the method, some in selected cases and others generally in their maternity work. From these studies there slowly accumulated sufficient accurate data to prove conclusively that the method was fraught with such dangers for both mother and child as to render its further use unwarranted. The Johns Hopkins Hospital, of Baltimore; the Mt. Sinai Hospital, of New York; the Michael Reese Hospital, of Chicago, and other large and reputable maternity hospitals issued authentic reports containing warnings to the profession and general public and condemning the method unqualifiedly. However, notwithstanding the wide publication of these condemnations, certain physicians have continued the use of the method, and by every means within their power, legitimate and otherwise, have let the public know that they are engaged in this work.

In the face of honest protestations from the reputable obstetricians of the country, who would gladly endorse and support any safe means of relieving the pangs of childbirth, such persistence must be regarded as unethical and done for one purpose only. It is an exploitation for commercial reasons—for the profit that is in it. Thousands of women, not knowing the risks that they and their offspring are running, eagerly submit to the method which is advertised by these unscrupulous physicians and which is proclaimed broadcast by equally unscrupulous and vastly more dangerous periodicals that publish beautifully written and alluring descriptions of the wonderful boon conferred upon suffering womankind. It has even been stated that mankind generally and physicians especially lack the proper sympathy for women in childbirth, or they would adopt any measures which might be proposed for their relief. This untruth is most invidious and unkind. No more whole-hearted sympathetic and devoted group of men can be found than those in the medical profession. Their reluctant abandonment of the scopolamine-morphine treatment because of its danger and their eager response to the nitrous-oxide anesthesia, as more recently advocated by eminent obstetricians in this country, prove their loyal devotion to the mothers of the land. "Safety first," however, is their ethical and honest stand; and in the strength of their position and with the support of recognized science behind them, they calmly face the shrewd and unethical advocates of unsafe and discarded methods while educating the public to a true understanding of the situation.—(*Therapeutic Gazette, January*, 1918.)

Truth About Intraspinal Injections in Syphilis of the Nervous System.

Sachs (*Journal A. M. A.*, Sept. 1, 1917), opposes this plan of treatment and states that some of the ardent advocates of the intraspinal method are beginning to see the light; and since they have acknowledged, as Amoss did recently, that the virus in poliomyelitis within the brain and spinal cord cannot be reached by intraspinal treatment alone, they will also be compelled to concede that what is true of the poliomyelitis virus must also be true of the syphilitic virus similarly situated within the tissues of the central nervous system. Physiologic evidence is, therefore, wholly adverse to the claims of those who favor intraspinal

injections of salvarsan for the cure of syphilis of the nervous system. But there are other reasons why the method is not satisfactory, and chief among these is the greater danger attendant on intraspinal therapy. Furthermore, the successful treatment of many of these cases of syphilis of the nervous system calls for intensive salvarsan treatment, by which Sachs means intravenous injections of 0.3 or 0.4 gm. of salvarsan repeated every three or four days until the patient has had from fifteen to twenty or even fifty injections. A similar number of lumbar punctures for the purposes of intensive treatment would necessarily prove most disagreeable, if not harmful, to the patient; but beyond all these facts it has been definitely ascertained that the serious forms of general paresis or of tabes dorsalis have not been favorably affected by intraspinal injections, and nothing has been accomplished by them that could not have been achieved by the intravenous method.

Sachs is entirely in sympathy with Halliburton's view that "particularly regrettable is the divorce between those who pursue their investigations by the bedside and those who work in the laboratory." It is especially regrettable, Sachs would add, that changes in biologic findings should be made the criterion of the efficiency of any therapeutic method. Claims were made for the intraspinal method chiefly by men whose interest was centered on a change in the Wassermann reaction, in the reduction of the cell count of the cerebrospinal fluid, and in the change in the globulin reaction, rather than on clinical improvement in the condition of the patient. After all, the patient remains the chief consideration. One may speak glibly of remissions in general paresis and of improvements in tabes dorsalis, but it takes the experience of the trained neurologist and psychiatrist to estimate at their true value changes in clinical symptoms.

In many particulars, the advantages of the intraspinal method have been grossly exaggerated. The opinion has reached the laity, as promulgated by advocates of the intraspinal method, that now general paresis can be cured and by the intraspinal method alone. Sachs has personal knowledge of patients suffering from general paresis who have been treated persistently and on innumerable occasions by intraspinal injections administered by the chief apostles of this method. Some of these patients have had remissions, but Sachs doubts whether a single one has been definitely cured, while all the others have taken the natural but gradual course toward a fatal termination. As for the remarkable reduction in the number of lymphocytes and the change in Wassermann reaction claimed as a result of the intraspinal method, Sachs asserts definitely, and the truth is already known to many, that the same changes have followed on intravenous injections, pure and simple, on repeated lumbar punctures, and on the introduction of the patient's non-salvarsanized serum. Evidently the changes in the cerebrospinal content may be brought about in a number of different ways.

Sachs does not for a moment question the accuracy of the attractive tables published by the advocates of the intraspinal method, but of one thing he is very certain, that there is absolutely no correspondence between a change in the cerebrospinal content and the condition of the patient. He could instance patient after patient, and some of them he has been able to demonstrate to others, in whom after both intraspinal and intravenous treatment, for general paresis or for tabes dorsalis, there has been no change in the Wassermann reaction or in the number of cells in the cerebrospinal fluid, and yet the patient has shown most satisfactory improvement in his general condition. —(*Ibid.*)

Raw Eggs Objectionable as a Diet.

The prevailing idea that raw eggs are easily digested is wrong. Numerous instances can be quoted to show that raw eggs may cause diarrhœa and vomiting, and that the utilization of the whites in the human alimentary tract is often found to be as low as fifty per cent. A substance which fails to stimulate a flow of gastric juice and is antipeptic, which hurries from the stomach, calls forth no flow of bile, and strongly resists the action of trypsin has little to recommend it as a foodstuff. Heating to 70 degrees centigrade (158 F.), removes the partial indigestibility and makes of the white of egg a readily assimilable nutrient.—(Bateman, *Critic and Guide*, January, 1918).

Diagnosis of Scabies by the General Practitioner.

Mild and mildest scabies is readily overlooked by the general practitioner. Severe

cases, because of the co-existence of itching and contagious pustules, are often recognized, especially as they are apt to occur in certain social strata or groups. The diagnosis, however, is little better than a guess, as actual demonstration of burrows, ova, feces and the tick itself, does not occur. Sabouraud, the distinguished dermatologist, writing in *La Presse Medicale* for June 21st, makes it plain that the non-specialist must unlearn several beliefs or axioms which animate him. Scabies is not a venereal disease *per se*, although it is a cubicular" affection, hence incidentally venereal. The reason that it is a disease acquired from sleeping with others in beds is simple—the parasite is a night walker, or perhaps better evening walker. Itching is comparatively mild in the day time, and other methods of contagion, however numerous, are almost negligible in practice. Scabies is a disease of the younger portion of the populace. The infant and child and their elders share beds with others for economic reasons. Another maxim of the general practitioner is that history or evidence of contagion will clear up a diagnosis. So he asks: "Have you slept with some one who scratched?" This is practical, but with limitations. The victim may have contracted the disease by occupying a hotel bed after another guest, the sheets not having been changed in the interim. The general practitioner further believes much in certain localizations as hands and fingers, feet (in infants), penis, and female breast. But this distribution refers really to the draped figure. Strip the patient, and other localities will be not less in evidence, notably the axillæ and buttocks. The general practitioner further looks at the webs and insides of the fingers first, the specialist, on the other hand, guided by experience, first looks on the wrist folds. Hence it is not that the general practitioner must unlearn anything outright; he must only learn that his precepts are incomplete, and may cause him to miss a diagnosis now and then.—(*Medical Record.*)

The Tonsil Question in Children.

G. W. Boot believes that if a child with acutely enlarged tonsils is put on syrup ferri iodidi for two or three weeks, a wonderful reduction in size often follows, and tonsillectomy may not be necessary. When tuberculosis of the cervical glands exists, he thinks it a mistake to remove the infected glands and leave the tonsils, believing the removal of the tonsils is really of more importance than the sacrifice of the cervical glands.—(*Annals of Otology, Rhinology and Laryngology*).

Editorial.

The Problem of Neurotics in Military Service.

There is a class of men who unfortunately have always been little understood, whose manifestations are being regarded as imaginary and consequently of very little importance. The average medical man ignores their complaints because of absence of concrete physical signs. Another reason why those cases are treated lightly is the fact that the individuals show a strong tendency to recover from isolated, morbid phenomena. In reality, such recoveries are not permanent nor prolonged, recurrences are frequent, but the underlying fundamental nature of the individual remains unaltered. Moreover, while concrete physical signs may be absent, nevertheless, there are always present functional physical disturbances alongside of psychological factors which are sufficiently powerful to cause actual and genuine disability and unfitness for responsible work such as military in war time.

The recognition of this type of individuals is of paramount importance at present, as it is essential to know in advance who is fit and who is not fit for the great task of protecting the country. The term "neurotic" is applied to the very vast field of individuals whose mental make-up is such that at any time during life, under the influence of the least emotion, they are apt to develop mental or physical disabilities of a functional nature, so as to render them useless in the community. Their chief characteristic is a want of equilibrium in the intellectual faculties. They are intro-spective, emotional, timid, extremely sensitive, impressionable and suspicious. For all these reasons their psychophysical resistance is constitutionally diminished, the co-operation and adaptation of their cerebrospinal centers are disturbed. There is a fundamental defect in the individual's attempt to adapt himself to new conditions and to meet situations in spite of the apparent objective normality.

If one considers the great multiplicity of psychic abnormalities and especially the most conspicuous among them "the state of anxiety"

so common of all, also the fact that neurotics are fully conscious of their disabilities, that they are constantly at work to repress the latter and, finally, that on account of the attempts at repression, the mental abnormalities increase in intensity so that they become totally incapacitated—if one considers all these psychological agencies, one must admit that neurotics cannot be trusted to fulfill a task of grave importance.

To be conducted efficiently, war must be conducted by efficient individuals. Persons who show psychopathic tendencies, persons who in civil life present evidences of ill-adaptation are certainly poor risks for military work in time of war. On the firing line must be the best and the most competent men who present the strongest guarantee in resisting a continuous physical and mental strain. The experience of France and England bears out fully this contention. There the medical officer soon began to realize the error in admitting to the ranks at the front mentally unstable individuals; the difficulties thus created were enormous. Men in great numbers had to be sent back with various psychoneurotic manifestations which rendered them absolutely unfit for actual service at the front. They had to undergo special treatment in special neurologic and psychiatric centres.

It is needless to emphasize the material sacrifices and the difficulties of the respective governments created through an injudicious and indiscriminate selection of men for the most responsible activities at the front. Let us profit by the unfortunate experience of others in selection of our men and let us avoid unnecessary casualties, since the condition is largely preventable. Let us avoid a useless burden which neurotic recruits would necessarily throw upon our government engaged at present time most seriously in solving most difficult problems.

Alfred Gordon.

Mobilizing the Profession for War.

Until the entire medical profession of the United States, or at least those who are mentally and physically fit and within the age limit, are mobilized within the Medical Reserve Corps of the United States Army, not until then can we give to the Surgeon General that efficiency which he so badly needs in having a large Body of Medical Officers upon whom to draw. Although you may never be called your joining the Medical Reserve Corps and placing your services at the command of your country, clearly indicates the patriotism which the medical profession, as a whole, should evince and which we must manifest if we are to win the war.

Every doctor must realize that success depends upon a carefully selected and thoroughly trained body of Medical Officers. By careful selection, we mean the placing of a medical officer in a position where he is best fitted for the service, and only by having an immense Corps or the entire profession mobilized upon a war basis, can we serve our country to the best possible advantage. This mobilization of the entire profession should come within the body itself, and every physician coming within the requirements of the service, as to age and physical fitness, should seriously consider this suggestion and not wait for complete mobilization but apply at once for a commission in the Medical Reserve Corps of the United States Army. It is not only for the combatant forces that medical officers are required but for sanitation, hospital camps, cantonments and in other departments where the health and life of the forces are dependent upon the medical officer.

At the present time, we have only 14,500 doctors in the Medical Reserve Corps, not a sufficient number to care for those already in the service, not mentioning the men to come into combatant forces as the result of a second draft. We have within the profession a sufficient number of doctors to fully meet the requirements of the Surgeon General's Office whatever they might be, but to be of service, you must join the Medical Reserve Corps to meet the appeal which is now being made for a large and efficient Medical Corps upon which the Surgeon General may draw as requirements demand.

State Hospital for Crippled Children.

The following bill was unanimously approved early this month by both House and Senate and passed on to Governor Davis for his signature:—

"Be it enacted by the General Assembly of Virginia, That the sum of $10,000.00 a year for two years is hereby appropriated out of any funds in the hands of the treasurer, not otherwise appropriated, to be used by the State Board of Health to establish an orthopedic hospital for the treatment of crippled

and deformed children in Virginia.

"All acts and parts of acts in conflict with this act are hereby repealed."

During 1910 and 1911, physicians of Virginia reported to the State Board of Charities and Corrections 330 children under 15 years of age who were indigent and crippled. Naturally the number has increased since that time, and the passage of this bill is a matter of much congratulation as a large percentage of these children can be cured if taken in time and treatment is continued under skilled hands for a sufficient period of time.

"The Eyes of the Navy".

Although an appeal made several weeks ago, through the daily press, resulted in the receipt of over 3,000 glasses of various kinds, the great majority of which has proven satisfactory for naval use, the Navy is still in urgent need of many thousand more binoculars, spy-glasses and telescopes. The use of the submarine has so changed naval warfare that more "eyes" are needed on every ship, in order that a constant and efficient lookout may be maintained. Sextants and chronometers are also urgently required.

Heretofore, the United States has been obliged to rely almost entirely upon foreign countries for its supply of such articles. These channels of supply are now closed, and as no stock is on hand in this country to meet the present emergency, it has become necessary to appeal to the patriotism of private owners, to furnish "eyes for the Navy."

All articles should be securely tagged, giving the name and address of the donor, and forwarded by mail or express to the Honorable Franklin D. Roosevelt, Assistant Secretary of the Navy, care of Naval Obeservatory, Washington, D. C., so that they may be acknowledged by him. Articles not suitable for naval use will be returned to the sender. Those accepted will be keyed so that the name and address of the donor will be permanently recorded at the Navy Department, and every effort will be made to return them with added historic interest at the termination of the war. It is, of course, impossible to guarantee them against damage and loss. As the Government cannot under the law accept service or material without making some payment therefor, one dollar will be paid for each article accepted, which sum will constitute the rental price, or, in the event of loss, the purchase price of such article.

Married—

Dr. Thomas Sanford Cooke, of Portsmouth, Va., and Miss Mary Wright Sapp, January 31st.

Dr. James Wood Jordan and Miss Christine Churchill Cooke, both of Ashland, Va., February 9th. Dr. Jordan has recently returned from hospital service in France.

Dr. Frederick P. Fletcher, Jr., of this city, but now first lieutenant in the Medical Reserve Corps, and Miss Donna Ellen Noble, Richmond, January 15th.

Dr. Frederick Louis Detrick, formerly of New Market, Md., but now of New York, and Miss Mamie Whaley, of Marshall, Texas, January 30th.

Dr. John W. Abbitt, Port Norfolk, Va., and Miss Hattie Whitney, Chuckatuck, Va., February 6th. They are enjoying a honeymoon in Florida and Cuba.

Dr. Louis Nelson West, Raleigh N. C. 1st Lieutenant, M. R. C., U. S. A., and Miss Eliza Eagles Haywood, daughter of Dr. and Mrs. Hubert Haywood, also of Raleigh, in Atlanta, Ga., January 18th.

The Graduate Nurses' Association of Virginia

Held its annual meeting in thiis city, February 1 and 2, under the presidency of Miss Ruth Robertson, of St. Luke's Hospital, Richmond. Miss Ada Eldredge, of Rechester, N. Y., interstate secretary of the American Nurses' Association, and Miss Mary Gardner of Providence, R. I., superintendent of the Visiting Nurses' Association, were invited guests and addressed the meetings. An informal round table discussion of war problems was held during the meeting. This was especially interesting as many of the nurses in attendance have volunteered for service with base hospital units and expect to leave for their work shortly. Public health nursing, as a means of overcoming the shortage in nurses came in for a large part of the discussions. Some counties in the State have already secured public health nurses, and a course of instruction is now being given in this city to train nurses for this work. The University of Virginia Hospital and people of Charlottesville have raised money to pay the expenses of four nurrses from that city for the course of study in the School of Social Work and Public Health.

Election of officers was as follows:—President, Miss Florence Bishop, Harrisonburg; vice-presidents, Miss Agnes Randolph and Mrs. Frank Costenbader, both of Richmond, secretary, Miss Josephine McLeod, Richmond, and treasurer, Miss Evelyn Edmunds, Richmond.

Dr. H. M. Miles,

Of Wise, Va., who has been doing special post-graduate work in diseases of the eye, ear, nose and throat, at Polyclinic Hospital, New York City, expected to return to his home about the end of February.

Brunswick County (Va.) Medical Society.

Officers of this Society, elected at its last annual meeting are: President, Dr. W. T. Moore, Valentines; vice-president, Dr. O. C. Page, Brodnax; secretary-treasurer, Dr. R. H. Manson, Kress.

Dr. Stanley H. Graves,

Norfolk, Va., is taking a special course in genito-urinary diseases at the Post-Graduate Hospital, New York City.

Prince George County (Va.) Medical Society.

The newly elected officers of this Society are Dr. L. P. Milligan, president; Dr George H. Reese, vice-president; and Dr. B. L. Naiman, secretary-treasurer. All are of Hopewell, Va.

The Warwick County (Va.) Medical Society,

At its December meeting, elected Dr. J. Kennedy Corss president for the ensuing year, succeeding Dr. John W. C. Jones; Dr. W. R. Aylett vice-president, and Dr. D. W. Draper secretary-treasurer, succeeding Dr. Aaron Jeffrey, who had served in the latter capacity for many years. All of these doctors are of Newport News.

Lt. Col. Junius F. Lynch,

Of Norfolk, Va., has just been appointed Chief Surgeon of the 93rd Division and is on the Staff of Gen. Roy Hoffman, who temporarily has headquarters at Camp Stuart, near Newport News, Va.

Surgeon General Wm. C. Braisted.

Of the U. S. Navy, has been re-appointed to this position for another term.

The Southern Surgical Association,

At its recent annual meeting, elected the following officers: President, Dr. I. S. Stone, Washington, D. C.; vice presidents, Drs. LeGrand Guerry, Columbia, S. C., and C. P. Rogers, Jacksonville, Fla.; secretary, Dr. Hubert A. Royster, Raleigh, N. C., and treasurer, Dr. Guy L. Hunner, Baltimore.

Dr. E. L. Flanagan,

Who has for several years been connected with the State Board of Health and has been doing rural sanitation work in co-operation with the International Board of Health, has been commissioned captain in the Medical Officers' Reserve Corps. Dr. Flanagan's latest post of duty has been in Fairfax Co., this State.

The Mercer County (W. Va.) Medical Society,

At its recent annual meeting, elected Dr. J. F. Fox, president; Dr. E. H. Thompson, secretary, and Dr. T. E. Peery treasurer. All are of Bluefield.

Dr. W. W. Murray

Has concluded a visit to friends in Suffolk, Va., and returned to his home at Miami, Fla.

Dr. John Stewart Gilman,

Of Memorial Hospital, this city, has been commissioned a first lieutenant in the Medical Reserve Corps.

Campaign Against Venereal Disease.

For the purpose of organizing a Nation-wide control of veneral diseases and to prevent the next increment of the draft from having the high venereal rate of the last, the U. S. Public Health Service has invited the States to help in a campaign against venereal diseases. It is evident that the prevention of venereal infections in the military population is largely dependent on the degree with which these infections are prevented in the civil community. For this reason, the civil authorities are asked to assist the Health Service in dealing with the venereal problem upon the basis of the control of communicable disease. To meet the situation, the following plans have been suggested: the establishment of venereal clinics by health authorities in contiguity to Army cantonments; the creation of new or the utilization of existing hospital facilities for the treatment of those infected: legal enactment; and public education, in which the problem is to be relieved of all moral and social issues and the campaign placed solely on a basis of control of communicable disease.

Dr. W. F. Draper, of the U. S. Service, will be in charge of the clinic which is to be established in Petersburg, Va., near Camp Lee.

Mr. Joseph L. Turner,

Head chemist of the Bristol-Myers Company, Brooklyn, has been unanimously elected First Vice-President of the New York Local Branch of the American Pharmaceutical Association.

Dr. Barham Member of Advisory Board.

The name of Dr. W. B. Barham, of Newsoms, Va., should have appeared in the list of physicians constituting the Medical Advisory Boards of Virginia in the Second District, as published in our January issue. His name had been accidentally omitted in list from which we published our information.

Dr. A. Murat Willis

Was elected one of the directors of the Richmond Trust and Savings Company, at its annual meeting.

Base Hospital Organized in North Carolina.

Dr. John W. Long, Greensboro, N. C., has organized a hospital unit, to be known as Base Hospital No. 65, which is composed of thirty physicians, surgeons, internes and dentists from many North Carolina cities and towns.

Dinwiddie County (Va.) Medical Society.

At the recent annual meeting of this Society, held in Petersburg, the following officers were elected:—President, Dr. E. W. Perkins, Reams; vice-president, Dr. C. S. Dodd, Petersburg; secretary, Dr. F. J. Wright, Petersburg. The county medical society will hereafter meet with the Petersburg Medical Faculty at its stated monthly meetings.

Dr. Basil D. Spalding,

Aberdeen, Md., was a visitor in this city, the latter part of January.

Lt. A. H. Straus,

Associate professor in bacteriology at the Medical College of Virginia, has cabled relatives in this city of his safe arrival in France.

Lt. Francis B. Hutton, Jr., M. R. C.,

Recently of City Point, this State, as surgeon-in-charge of the 107th Supply Train, Wisconsin National Guard, was on the Tuscania which was sunk by a German submarine off the coast of Ireland, February 5. Shortly thereafter he cabled his father Judge Hutton, of Abingdon, Va., that he was alive and well.

Nurses Urgently Needed for Red Cross Service.

The appeal is still being made for nurses in the service. In order to meet the increasing demands of the Army and Navy Corps, the Red Cross has modified somewhat its former requirements for enrollment. The age limit has been lowered to 21 years and in special cases nurses over 40 may be accepted. Smaller schools for nurses have been placed on the accredited list and applicants are judged on their merits.

Rural Sanitation Discussed Before Legislators.

On February 5, Dr. Charles W. Stiles, of the Public Health Service, one of the best known sanitarians in this country, delivered an illustrated address before members of the State Legislature on Rural Sanitation. The talk was the forerunner of an appeal for a larger appropriation with which to carry on health work in this State. There were other speakers on various phases of health work.

Dr. H. W. Judd,

Mineral, Va., visited this city during January.

Dr. May F. Jones,

Of West Point, Va., has been appointed to a position in the Federal Public Health Service at Hattiesburg, Miss., in which place she has been located for several years at the State Normal College.

Dr. E. T. Rucker,

Of this city, who suffered a painful injury about the right hip when he slipped on the ice, early this month, is reported as improving.

Increase Salary of Health Commissioner.

Senate Bill No. 113, providing for an increase in the salary of the State Commissioner of Health, was passed February 6. The measure allows the State Board of Health to increase the salary of the present commissioner, Dr. Ennion G. Williams, to an amount not exceeding $5,000.00. In discussing the bill before its passage, mention was many times made of the excellent work which had been done by Dr. Williams.

Government Clinic.

A free clinic for the treatment of special diseases is to be established in Petersburg, Va., as soon as suitable space for the purpose can be secured. The clinic will be operated under the direction of the U. S. Public Health Service in co-operation with the bureau of sanitary service of the American Red Cross. The city is expected to co-operate with these later.

Members of War Camp Community Service.

Drs. A. R. Gray, Palmyra, and B. B. Bagby, West Point, Va., were appointed chairmen in their counties for the War Camp Community Service campaign. The object of this enterprise was the conservation of the health and morals of troops outside of the cantonments.

Dr. Lewis B. Staton,

Formerly of this city, but recently of Norfolk, Va., has received his commission as first lieutenant in the Medical Reserve Corps, U. S. Army.

Dr. John W. Carroll,

Lynchburg, Va., is one of the candiates whose names will appear on the official ballot for Democratic primary in April for nomination in the June election to the Board of Aldermen of that city.

Enlarge Naval Hospitals.

Plans for further extension of the naval hospitals at Norfolk, Va., Great Lakes, Ill., and those now in operation at the naval bases in Great Britian and France have been completed by Surgeon General Braisted. The Norfolk institution is to be increased from 1,200 beds to 2,000, and the foreign hospitals are to be exactly doubled, that in England to 1,000 beds and that in France to 500. These extensions are all based on a sick rate of 5 per cent. of the personnel maintained at adjacent naval stations or bases.

New Medical Draft Rules.

It has been authoritatively stated that the draft medical regulations are being revised so that thousands of men who failed to pass the physical examination in the last draft would be eligible for military service in the next call. It is said that more than 200,000 men were rejected because of minor physical defects, easily corrected by slight surgical operations.

Dr. C. Lydon Harrell,

Of Norfolk, Va., passed through Richmond early this month, en route to Boston, where he will take a special course in diseases of the chest and lungs under Dr. Henry Christian, of Harvard. After three months, he will return to Norfolk, where he expects to devote himself to this specialty.

Dr. John R. Atwell,

Of Wicomico Church, Va., was a visitor in Norfolk, Va., early this month.

Dr. F. D. Wilson,

Of South Norfolk, Va., is out again after a slight indisposition.

Dr. H. D. Howe,

Of Hampton, Va., who recently joined the U. S. Army Medical Reserve Corps, has resigned on account of sickness and is now taking a much needed rest.

Maj. W. L. Peple, M. R. C.,

Of this city, who was stationed at Camp Lee, Va., has been transferred to Fortress Monroe, Va.

Central State Hospital.

The forty-seventh annual report of this institution for the fiscal year ended September 30, 1917, shows that this hospital has been conducted as usual with a view constantly in mind of giving the patients humane care and scientific treatment, and that its affairs have been administered in an efficient and economical manner. There were 588 admissions during the year and the daily average 1,775—50 in excess of the previous year—or, including those on furlough, the daily average was 1,863. As exciting causes of insanity, alcohol and narcotic drugs were unquestionably less frequent than in previous years, though neither of these has been an appreciable cause of insanity in patients sent to this hospital. More than half the patients admitted are suffering from incurable physical and mental diseases, many of which can certainly be traced to hereditary, venereal or alcoholic origin. An important etiological factor in mental disease and degeneracy of these patients is venereal disease. It has been ascertained by means of the Wassermann test and clinical observation that 25 to 30 per cent. of the entire patient population are affected with syphilis.

Apart from chronic diseases, the physical health of the patients was good as usual. There

was no noticeable increase in tuberculosis which is one of the principal causes of death but an increase in pellagra among the women toward the end of the year. It is rare that a male patient has this disease. Statistics show that tuberculosis and pellagra are more fatal among negroes than whites, while malaria and hookworm do not affect negroes as seriously as whites. The medical and nursing attention were supplemented by suitable employmennt and recreation as far as practicable, this having been found to aid the patients physically and mentally as well as aid in the work of the hospital.

Dr. Charles R. Hughes,

Of the 1917 class Medical College of Virginia, who was appointed one of the internes at Virginia Hospital, this city, has tendered his resignation, as he has been called into Government service.

Commissions to Physicians and Surgeons,

With the rank of first lieutenant in the Virginia National Guard, were issued in January to the following Virginia doctors: Edward LeBaron Goodwin, Hanover Grays; Edgar A. Pole, Bath Riflers; William S. Keister, Clinch Valley Riflers; Philip Smith, Washington Riflers; W. P. Davis, Blue Ridge Guards; Moses D. Hoge, Jr., First Company, Richmond Grays; Taylor G. Smith, Russell Guards; Eddie L. Johnson, Peaks of Otter Riflers; Mark R. Saville, Benj. C. Moomaw, Walter S. Slicer and Elliott T. Brady, of Roanoke.

Dr. Samuel Downing,

Wicomico Church, Va., went to Norfolk, Va., the latter part of January, to enter the service as a member of the Medical Reserve Corps.

Dr. Carl Stoehr

Has returned to his home at Big Stone Gap, Va., after a business trip to Cincinnati.

Southside Virginia Medical Association.

The first quarterly meeting of this association for 1918 will be held in Crewe, March 12, Dr. P. A. Irving, of Farmville, presiding. Dr. R. L. Raiford, of Sedley, is the new secretary.

Dr. D. Atwell Forrer,

Harrisonburg, Va., is taking a post graduate course in diseases of the eye, ear, nose and throat, in Philadelphia.

Dr. John H. Ayres,

Of Accomac, Va., was a recent visitor in Norfolk.

The Travelling Dispensary Service

From Nancy, France, under the direction of the Children's Bureau, cared for 1,700 persons in the first six weeks of its existence. Clinics are held in schools, town halls or factories in six villages.

Re-Equipment of Field Hospitals in Italy.

The Red Cross War Comcil will co-operate with the Italian Red Cross in re-equipping field hospitals in Italy, many of which were lost or damaged in the retreat of the Italian army. It is expected that $175,000.00 will be needed for the equipping of nine tent field hospitals of 50 beds each and motor transportation for these and for three large front base hospitals.

School for Disabled Men.

For the training of crippled men in trades or occupations in which they can engage in spite of their handicaps, the American Red Cross has established in New York City, in the structure formerly occupied by the College of Physicians and Surgeons, a school of re-education known as the Red Cross Institute for Crippled and Disabled Men. The organization of this Institute was made possible by a gift of over $50,000.00 by Mr. Jeremiah Milbank, of New York. The facilities of the Institute will be at the disposal of the Government for the rehabilitation of crippled soldiers and sailors.

Members of the staff have been engaged for six months in studying the experience of European countries in reconstructing their disabled soldiers.

It is estimated that in the first year after the American army participates on the battle-front, 100,000 men will be disabled, of whom 20,000 will require partial or total vocational re-education. For the second year, 40,000 are estimated and 60,000 for the third year.

Dr. W. E. Fahrney,

Of Timberville, Va., was elected president of a meeting of farmers held at that place, early this month, at which time it was decided that this organization should become a part of the Rockingham Farmers' Co-Operative Association, Inc.

Health Conditions Improve.

Health conditions at all camps and cantonments in the United States showed continuous improvement early this month, with decreasing number of deaths and hospital admission rates. The measles epidemic is generally declining, and pneumonnia, while still prevalent, shows a decreasing rate. There was a marked decrease in the number of new cases of meningitis.

State to Have Report On Preventable Diseases.

A resolution was offered and passed in the House of the General Assembly of Virginia on the 8th of this month, which provides for the appointment of a comission to investigate and report to the next General Assembly on preventable diseases. It is hoped this will result in a State appropriation by the next legislature to be employed in combating disease. Members of the commission are to serve without pay.

Dr. T. H. Massey,

Of Warm Springs, Va., is a first lieutenant in the Medical Reserve Corps, and is at present at Camp Greenleaf, Ft. Oglethorpe, Ga.

The New Constitution and By-Laws of Medical Society of Virginia,

In pamphlet form, is sent out as a supplement to this issue of the Virginia Medical Monthly. Should any member fail to find his copy enclosed with journal he should notify us at once.

Good Health Report.

The Health Department of Lynchburg, Va., announced that no deaths occurred in that city in December from any communicable disease except tuberculosis. Only thirty-two cases were reported, fourteen of which were chickenpox and twelve whooping-cough.

Tri-State Medical Association.

The twentieth annual session of this Association is to be held at Charleston, S. C. February 20 and 21, instead of Spartanburg, as at first scheduled. Hotels and homes in the latter place were so overwhelmed with friends and relatives of the New York regiments camped there that Charleston came to the rescue, and the invitation was immediately accepted to meet in that city, which is always associated with hospitality and a good time generally. The New Charleston Hotel will be headquarters for the meeting. Dr. D. T. Tayloe of Washington, N. C., will preside, and the familiar face of Dr. R. E. Hughes, of Laurens, S. C., at the secretary's desk, should make members feel "at home". Owing to the number of members of this Association who have joined the colors, the list of papers is abbreviated, but those on the program are on interesting subjects and by capable authors. Attractive clinics and entertainments are promised.

Minnesota Medicine.

The St. Paul Medical Journal has been discontinued in order to clear the field for *Minnesota Medicine*, the journal of the Minnesota State Medical Association. The first issue appeared in January 1918.

Wanted—For the Ordnance Department of the Army, to serve in the United States. Thousands of workers are urgently needed in the prosecution of the war. The actual fighting forces would be powerless without an efficient civilian army behind them. Several thousand clerical positions *for men and women* at salaries ranging from $1,000 to $1,800; testing, mechanical trades, drafting, and inspection positions *for men only*, at good salaries.

For further information apply to the representative of the U. S. Civil Service Commission at the post-office or custom house in any city, or to the Civil Service Commission in Washington, D. C.

Wanted—An assistant for contract practice immediately. Answer stating age, married or single, etc. B. Ryland Hudnall, M. D., Low Moor, Va. (Adv.)

Wanted—Eye, Ear, Nose and Throat specialist, now associated in large Western private practice, desires Virginia location. Locum tenens, partenership, group association or assistantship with a well-established, ethical specialist. Native of Virginia; 33, married, good habits and address; licensed Virginia; excellent ability, training and references. Honorable physical exemption further military service. Correspondence invited. Address J. L. W., 1339 Fifteenth Street, N. W., Washington, D. C. (Adv.)

Obituary Record.

Dr. Robert Lee Payne, Sr.,

One of the most prominent physicians of Norfolk, Va., died suddenly of heart trouble, February 8, in a hotel at Durham, N. C., where he had stopped on his return home after a business trip to Raleigh. Dr. Payne's death came as a shock to his many friends in Virginia and North Carolina, where he had won high distinction in the profession and was greatly beloved.

He was born in Lexington, N. C., 61 years ago. His education was received at the University of North Carolina and Jefferson Medical College, Philadelphia, from which he took his medical degree in 1881. After practising in North Carolina for a number of years, he moved to Norfolk in 1896, where he had since made his home. He comes of a family of physicians, being of the fourth generation. Dr. Payne had held many positions of honor in his native and adopted states, among which may be mentioned that he was chief surgeon of the Norfolk and Southern Railway and of the Chesapeake and Clyde Steamship Companies, director and medical director of the Jamestown Exposition, ex-president of the North Carolina Board of Medical Examiners, of the Seaboard Medical Society and of the Norfolk Medical Society, and president of the medical staff of St. Vincent's Hospital.

In 1882, Dr. Payne married Miss Mary Emma Hankins, of Danviille, Va., who survives him with three children, one of them being Dr. R. L. Payne, Jr., of Norfolk.

The Norfolk Medical Society, at a called meeting, adopted resolutions of regret over the death of Dr. Payne, and decided that members of the Society should attend the funeral in a body. The interment was made in Norfolk.

Dr. William Chilton Day,

One of the most prominent physicians of Danville, Va., died in that city, January 25, after an illness of ten days with pneumonia. He was born in Smithfield, Va., June 6, 1841, and received his education at Smithfield Academy, University of Virginia and Medical College of Virginia, taking his medical degree from the last named school in 1864. He served as surgeon in the Confederate Army in the war between the States and received the rank of captain. After the war, he practiced at Hicks Ford, Va., and at St. Louis, Mo. and moved to Danville in 1881, where he had since made his home. For thirty-five years, he was a local surgeon for the Southern Railway. He was an honorary member and ex-vice-president of the Medical Society of Virginia and an ex-president of the Danville Academy of Medicine. His wife and two sons survive him.

Dr. William Chauncey Carter,

A retired physician of Fredericksburg, Va., died in that city the latter part of January, after a brief illness, at the age of 72 years. He was a Confederate Veteran and for many years practiced in Essex County, Virginia, later moving to Fredericksburg. He is survived by two daughters.

Dr. Vincent C. Bidgood,

Of Churchland, Va., died February 5. He is survived by his widow and one daughter. Dr. Bidgood graduated in medicine from the University of Virginia in 1881.

Dr. Thomas D. Crothers,

An honorary member of the Medical Society of Virginia and always a welcome visitor at its meetings, died at his home in Hartford, Conn., January 13, at the age of 76 years. He was a native of New York and studied medicine at the Albany Medical College, from which he graduated in 1865. For over forty years, he had been secretary of the Association for the Study and Care of Inebriates and was editor of the Journal of Inebriety. At the time of his death he was a dean of the College of Physicians and Surgeons of Boston.

Dr. Harry A. Sellhausen,

Of Washington, D. C., died at the home of relatives in Brooklyn, N. Y., January 17, at the age of 43 years. He was a graduate of George Washington University Medical School, Washington, in 1899.

Dr. Thomas Prioleau,

Charleston, S. C., a graduate of the Medical College of South Carolina in 1892, and, at the time of his death, professor of urology in that school, died January 14. He was 46 years of age.

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Original Communications.

ACUTE ABDOMINAL PAIN IN CHILDREN.*

By F. H. SMITH, M. D., Abingdon, Va.
Physician-in-Charge, Abingdon Hospital.

Most medical books fail the clinician at the point where he needs most help. This failure comes about through approaching from the wrong side problems of diagnosis. The text-book portrays disease as if it were a finished picture-puzzle. Because it is finished, it is no longer a puzzle. At the bedside we have a jumbled lot of odd, apparently mis-shaped pieces from which we expect to make a picture similar to one in the text-book. The book gives but one picture at a time, and over top of it writes its name. Out of the oddly shaped pieces before us in the actual case it seems that we could make any number of pictures of disease, but none of them are labelled for us.

Suppose, now, we should give up thinking of the books altogether, and, instead, we should take the complaint that the patient utters, and use this as the basal, or key-piece, of the diagnostic picture-puzzle. It is in this way that I propose to discuss acute abdominal pain in children.

Pain is of all symptoms the most obtrusive. As such, it should be regarded as a blessing rather than as a curse. First, because it is the signal, common to all animal life, that something is wrong. It is the one alarm that drives all animals to seek help and relief. More refined symptoms require more or less trained intelligence to perceive their significance. The youngest baby gives expression to pain. Pain is a blessing, also, because as long as pain is present, "nature still hopes for a cure, either spontaneously or by some action which she is trying to suggest. Peritoneal pain requiring operation and in which operation offers reasonable hope of effecting a cure, continues more or less agonizing; but the portent is ominous when pain suddenly ceases without the removal of the cause." (Espey, *Jour. Amer. Med. Asso.*, 1916, lxvii, 1040).

Pain, of course, is the expression of over-stimulation of sensory nerves. The child's nervous system may be said to be normally hypersensitive. That is, its adjustment or balance is delicate. It takes slighter stimuli to induce response than in the adult. Hence, we expect a child to react violently to what is perhaps a very trivial irritant—for example, a generalized convulsion from intestinal parasites. Abdominal pain is no exception to this rule. Possibly this hypersensitiveness explains why children pass so readily into shock with acute abdominal conditions and at operation.

Speaking generally, all hollow abdominal viscera have a double innervation: the vagus system supplies motor impulses, the sympathetic inhibitory. These antagonistic impulses must be nicely co-ordinated for perfect function. As in walking, there must be relaxation of extensors at the instant of contraction of flexors, so to empty any hollow viscus there must be relaxation of sphincter or lower segment at the moment of contraction of detrusor fibers. A perfectly adjusted balance keeps the digestive functions out of the realm of consciousness, except for a general sense of well-being. But maladjustment brings conscious-

*Read before the forty-eighth annual meeting of the Medical Society of Virginia, at Roanoke, October 30-November 2, 1917.

ness of pain. It is the same mechanism brought into play whether the disturbing factor be merely a mechanical irritant, like an undigested meal, an intestinal parasite, or a gallstone; or irritation inducing spasms at a distant point, as pylorospasm of appendicitis; or the primary spasm and final paresis of inflammation. In fact, it seems that there is little difference in the mechanics of any painful affection of hollow viscera. The very interesting explanation of intussusception is advanced that it is brought about by relaxation of a lower segment of bowel at the moment of spasm of an upper segment.

The vagus and sympathetic systems are spoken of as the autonomic nervous system. Because of their extensive distribution, both within and without the abdominal cavity, it must often happen that some disturbance arises within the territory so innervated. Any pain originating within the domain of the autonomic system may be referred to another part. Hence, an explanation of abdominal pain with earache, and of earache with pneumonia.

In the preparation of this paper, I have consulted the histories of 577 patients who mentioned abdominal pain as their main complaint. Of the children under twelve, I find associated with this presenting symptom the following array of symptoms in greater or less frequency and in all sorts of combinations: Nausea, vomiting, constipation, diarrhea, tenderness, rigidity, mass or swelling, general distention, cough, fever, tachycardia, shock, urinary frequency and pain, and weakness of the lower limbs. If abdominal pain be the central piece of the picture, then some combination of these other symptoms must be fitted in with the central piece, and to them added the new data we can bring out on physical examination and with laboratory and other special aids, in order to make the finished picture of disease. Proceeding in such manner, we find that of our series the cause of abdominal pain was intra-abdominal in seventy-five per cent. So that the chances are seven and a half out of ten that a child with abdominal pain has some abdominal trouble.

These cases are all hospital cases, and, therefore, are one-sided. There is not a single case of simple intestinal colic in the list. Yet every one will admit that simple colic is the most frequent cause of abdominal pain in children. In one sense this is a pity. If the chances were known to be "fifty-fifty" that a child with pain in its abdomen has some serious abdominal emergency, each case probably would be investigated until one assures himself that the cause is trivial, and we would get less of the desperate surgical cases and more earlier ones. There is one way to overcome this handicap: Regard every case as an emergency possibility until we know otherwise. Simple colic should be attended with simple colicky pain, and nothing else; and should be promptly relieved by enema.

At the risk of seeming dogmatic and extreme: It is next to criminal to administer a purgative in the presence of acute abdominal pain, and it is altogether criminal to do so with the purpose of using the purgative as a therapeutic test, on the theory that if the purgative goes through, no obstruction; if it fails to go through, there may be obstruction.

Aside from simple colic and injuries, we find that the following intra-abdominal conditions have been the cause of the abdominal pain of our series: Acute and subacute appendicitis in its various forms; intestinal obstruction by intussusception, Meckel's diverticulum and strangulated hernia; tuberculosis of the mesenteric lymph nodes; sarcoma of the ovary; intestinal toxemia, and typhoid fever. This covers the records of seven years, and will probably very nearly cover the list of the usual intra-abdominal conditions which cause acute abdominal pain in childhood. If this be so, there are very few causes which give rise to strictly surgical emergencies in the child's abdomen. Because of their frequency and because of their seriousness, two of these should be constantly borne in mind in dealing with children. Acute appendicitis and the several forms of acute intestinal obstruction are the great abdominal emergencies of childhood, and "the fate of the patient depends almost entirely on the skill and promptitude of the doctor who first sees him. Diagnostic skill is the important factor in recovery; special surgical skill has very little to do with recovery." (Morison, *Jour. Amer. Med. Asso.*, 1914, lxii, 412). Around the question as to whether or not the child has appendicitis or obstruction revolves the whole question of the disposition to be made of him; for if he has either, the case is immediately and imperatively surgical, as all will admit; whereas, if both of these conditions can be eliminated from

the possibilities, time may be taken for further study.

One might take issue with me for harping upon the subject of appendicitis in childhood. It is a time-worn subject. But when ninety per cent. of children with appendicitis are still admitted to hospitals with gangrenous or perforated appendicitis, peritonitis or abscess, someone is still blamable. The one at fault is not the surgeon that the mortality in adults is 4.7 per cent., while the mortality in children is 23 per cent., according to a late report. (Beckman, Smith and Everingham, *Amer. Jour. Med. Sci.*, 1917, cliv, 490).

Of the acute abdominal diseases entering this hospital, 90 per cent. were acute appendicitis or some form of obstruction. Differentiation between the two seems easy, and yet it is not always as easy as it seems. In appendicitis, we expect in the early course more fever, vomiting, tenderness localized rigidity and leucocytosis. In obstruction, especially intussusception, we expect more shock, the pain is more intermittent, bowel tumor, stools without fecal matter but with the mucus and maybe blood, and little or no fever or leucocytosis. But, after all, differentiation is of academic rather than of practical interest. If we can bear them both in mind as possibilities in every case, we can think out the symptoms and signs that we might expect to find. In our experience, acute abdominal pain associated with vomiting, moderate fever, manifest shock, generally tender and rigid walls, constipation and leucocytosis, has generally stood for one or the other of the two surgical emergencies of childhood.

Just recently a physician of our acquaintance was confronted with the question of early differentiation between acute appendicitis and typhoid fever in a young child. He was alive to the necessity of a prompt decision. A mistake in either direction would have been serious, as you can see. He recognized that typhoid fever in childhood is oftener than not atypical. He wondered whether so much pain at the beginning of the illness could occur in typhoid fever. Probably such anxiety is not often necessary. When there is this doubt, it seems to us that the most positive differential information should come through the blood count. Acute inflammation within the abdomen should be accompanied by leucocytosis; typhoid fever should not. It was this point that helped us in our one case of typhoid fever where abdominal pain was the manifest complaint, and also in the case which we called acute intestinal toxemia.

We need hardly stop for more than comment on the two cases of the series that suffered with ovarian sarcomata. In one, the sarcoma was bilateral, and the symptoms which brought the patient to the hospital were obstructive from adhesion of the bowel to the tumor. In the second, the tumor mass was regarded before admission as an appendiceal abscess. In each case identification of a solid mass, not only through the abdomen, but palpated more exactly through the rectum, led us to attribute the abdominal pain to a solid tumor, at least, whatever might be its pathological nature or its exact origin.

In the one case of tuberculous mesenteric glands that was admitted primarily because of pain, the pain was produced more by the adhesive peritonitis attending the process than from the diseased glands themselves.

I do not go far wrong in saying that twenty-five per cent. of children admitted to the hospital with abdominal pain represent mistakes in diagnosis. This is the number whose trouble was outside the abdomen, yet the physician has mistaken them for acute surgical conditions. The great majority of them would not have been sent to the hospital otherwise. It should not be forgotten that if the chances are seven and a half to ten that the abdominal pain arises from intra-abdominal causes, the chances are still two and a half to ten that it is extra-abdominal. There is a twenty-five per cent. chance of error in accepting abdominal pain at its face value.

Of our series about eleven per cent. were due to infection of the upper urinary tract; six and two-thirds per cent. to pneumonia with pleurisy, and six and two-thirds per cent. to spinal disease.

The explanation of pain from ureteral spasm is the same as that of any other spasm. By the same mechanism at play in the abdomen, ureteral pains are spasmodic and are often referred to the abdomen. An intermittent abdominal pain, associated with high irregular fever and cloudy urine, in which are purulent looking bodies in suspension, directs attention to the possibilities of the condition loosely called acute pyelitis. No child should be operated upon for appendicitis until its urine has been examined microscopically. If pus is present,

we may or may not be set right in diagnosis. A little pus in the urine frequently accompanies acute attacks of appendicitis; the violent case of "pyelitis" may have no pus present at all at any one examination. A saving sixth sense sometimes enters in and sets us straight.

Why the child should refer to its abdomen pain originating in its chest or back is explained very simply by remembering that the abdominal walls are supplied, on the one hand, by branches communicating with the lower intercostals supplying the parietal pleura and the outer half of the diaphragm; and also by branches coming off directly from the lower thoracic and lumbar cord. It is a well-known law of nerve pain that it is referred to its peripheral termination. The child refers the pains of its chest and back to the terminals in the abdominal wall.

Whether or not the pneumonic patch can yet be demonstrated by physical signs, we are very suspicious of an abdominal diagnosis when the child has a flushed face, there is visible waving of the alae nasi, its respiration rate is disproportionately rapid and the leucocytosis higher than is usually found in acute inflammations. It is not often that attentive observation will not bring out a patch of pleurisy at least.

Two children have been admitted to the hospital with the diagnosis of acute appendicitis with the legs so spastic that they could hardly walk. The only difficulty in diagnosis in these two cases was the valuable information lost through failure to look at the back. Each had a definite kyphos, with spinal muscles spastic, pain and tenderness radiating as much around the left flank as the right.

The conclusion we draw is the very obvious one to all of us in the abstract, namely, there can be no diagnosis until a complete history and examination has been made. If, in the concrete, the young child be literally stripped and examined from head to toe, then diagnosis in pediatrics will likewise be stripped of much of its difficulty.

DISCUSSION.

Dr. John Staige Davis, University.—I was interested in that, because it is a puzzling problem at the University. Children come there and the surgeons will go for them. There is confusion in pneumonia. In examining our cases, I found the test Dr. Smith alluded to, but he didn't give the exact figure. We had several children come there without physical signs of pneumonia. How can you recognize it, then? The lesion in the lung is accidental; it is a blood toxin with local infection which doesn't always occur, and it certainly is not always detected by ordinary means. We have had cases of children coming there doubled up, and tender in this (indicating) region, and vomiting. A very careful examination may not always reveal pneumonia. The point Dr. Smith made was one. We worked out some of those points after one person was opened up and really had pneumonia. It was thought at first it was an acute abdominal condition. The children are all so wayward in their symptoms we cannot rely on them all, but the best children that have pneumonia will have 30,000 leucocytes.

Dr. H. E. Jones, Roanoke.—That is too good a paper to let go by. Dr. Smith always gives us good papers, and he is 99 per cent. correct, but the main stress he made upon his paper, as I understand it, was the pain and not the relief. Pain is a symptom, and pain if carried on long enough will cause death. Blunt that pain just enough to make the patient comfortable, then go ahead with your diagnosis and take what time you have to take to find out what the trouble is, and then follow that up.

About ten days ago I had an abdominal pain early one morning, about 7 o'clock, right over the appendix region. I got a little nauseated and finally the pain drew over and doubled me up and I began to get scared and thought it was appendicitis, and I got thinking about some literature on the subject and what the surgeons advise to relieve that pain. I got a hot salt bath and took a teaspoonful of paregoric and that didn't relieve me; then I took a hypodermic, a quarter of a grain of morphine, and that didn't relieve it. I had a little 200 candle-power light made for local applications. The salt didn't relieve me. We are told that heat from a hot iron, from salt or any salted substance, will not penetrate below the skin, but that the radio-light will go in two or three or four inches. I applied that radio-light and probably in a minute and a half or two minutes I was comfortable. I couldn't have stood that pain very long if I hadn't gotten relief. When I got a little more comfortable and began to think, I remembered that the day before I had eaten some chestnuts and the day before that I had eaten peanuts; and when I got relief from that source there wasn't any more pain. But many a patient's vitality and resisting power is sapped by letting the patient suffer so long before giving relief.

Dr. W. P. McDowell, Norfolk.—I want to endorse every statement that Dr. Smith has made. I consider pain in little children, little people, one of nature's danger signals. I do not believe any physical examination is complete unless the child has been stripped, examined thoroughly and given a complete physical examination including an examination of the blood.

One of the speakers referred to his abdominal pain which he himself had. I think it is all right to try to relieve the patient, but if he was treating a child of mine and gave paregoric and opium in that condition without first making a diagnosis, I would consider that would be criminal.

Dr. W. E. Anderson, Farmville.—I will discuss the discussion and not the paper. It seems to me the point about dealing with the pain of children, if you can relieve it by local and simple measures it will be satisfactory, but to give a narcotic, and especially an opiate and thereby obscure the diagnosis, it is absolutely wrong. There are a great many conditions indicated by pain which if watched closely, it will soon be found out what is the cause of that pain. That is what we must know, and any means of re-

lieving pain that doesn't obscure the symptoms may be all right, but you must not interfere with finding out the cause of that pain. It is likely to develop subsequent to that pain why that pain does exist. When you have so obscured those symptoms as not to be able to arrive at that conclusion you have done harm instead of good.

SYPHILIS OF THE JOINTS.*

By H. H. HAZEN, M. D., Washington, D. C.
Professor of Dermatology, Medical Department of Georgetown University; also in Medical Department of Howard University.

History—Gouriantz, in a recent Lyons thesis, calls attention to some of the early writers on syphilitic arthritis, and notes that the condition was described soon after the return of Columbus to Europe. In the past few years there have been many articles dealing with this manifestation of syphilis, the two most complete being the theses of Gouriantz and Pillon.

Frequency.—It is probable that about twenty per cent. of all syphilitics have some definite joint involvement, either early or late, in the course of the disease.

Time of Involvement.—In the early stages, either before or after the rash, about twenty per cent. of all syphilitics have some articular disturbances; in the late stages, not more than five per cent. are thus affected.

Etiology.—The joint trouble is due to the presence of the Treponema pallidum in the joint tissues. In all cases where the trouble comes on late, previous injury to the joint seems to be a predisposing factor.

Pathology.—The pathology of joint syphilis is like that of syphilis in any other portion of the body. The presence of the invading organism calls forth certain definite tissue responses, these beginning in the perivascular lymph spaces. In the late gummous stages there may be one or two solitary gummata or there may be infiltration with numerous miliary gummata.

Clinical Types.—In acquired syphilis the following types can be recognized: (a) Arthralgia, which is the most frequent type; this is common at the time of the early eruption, but may occur late in the course of the disease. There are no objective findings, even by the X-ray, but there is more or less intense pain, usually worse at night. The large joints are the ones usually involved.

(b) Synovitis or pseudo-rheumatism may be acute, subacute, or chronic. This type may simulate the so-called rheumatic fever, for one or more joints are swollen and red and there may be considerable fever. Pain is always intense. The X-ray findings are usually negative.

(c) Hydrarthrosis is usually found before the third year of infection. The knees are most often involved; only the large joints are affected and frequently the trouble is symmetrical. There is no fever or tenderness, only a sudden effusion into the joint cavity. There is no muscle spasm.

(d) Osteo-chondro-arthropathies or the pseudo-white tumors of the French authors are due to gummata that usually begin at the ends of the bone. These lesions are commoner than is usually realized and are often mistaken for tuberculosis, a disease that it is difficult to differentiate.

(e) Gummous synovitis or perisynovitis involves chiefly the large joints, and must not be confused with the luetic bursopathies. There is periarticular swelling and a chronic course.

(f) Tabetic arthropathies or Charcot joints may be either single or symmetrical and the large joints are usually affected. In the past it has been held that the disease was due to a trophic disturbance, but in the past year I have had the opportunity of examining ten cases, and in each instance there was evidence of bone syphilis in the immediate neighborhood of the joint, so naturally I feel strongly that many of the cases of so-called Charcot's joint are due to the direct action of the Treponema pallidum in the joints and that antisyphilitic treatment is indicated.

(g) Mericamp has described a form of pseudo-arthritis deformans of the hypertrophic type as due to syphiliis

In congenital syphilis the following lesions are found:

(a) Arthralgia is rare, but does occur, according to Fournier.

(b) Synovitis may also occur.

(c) Hydrarthrosis, or Clutton's joints, are not especially uncommon. There is a rapid painless effusion, usually into the knee joints, with marked tendency for recurrence.

(d) Osteo-chondro-arthritis is fairly common and is unquestionably usually diagnosed as tuberculous.

(e) Gummous perisynovitis is rare.

(f) Von Gies joints resemble the atrophic arthritis of Goldthwaite.

*Read before the Medical and Surgical Society of the District of Columbia, November 1, 1917.

Diagnosis.—The majority of American writers seem to assume that the diagnosis can usually be made from the absence of spasm, but this is certainly not true in practice, and both of the French authors, already named, deny the validity of this sign. The only sure way to diagnose syphilis of the joints is to suspect it in every case of joint disease and look for other signs of syphilis, either laboratory or clinical.

Prognosis.—When but little destruction has occurred, the outlook is good, and even in late cases a useful joint can usually be retained.

Treatment.—The treatment is that for syphilis, namely, intensive salvarsan and mercurial administration. At times it may be necessary to rest the affected joint.

1621 *Connecticut Avenue.*

CASES OF GASTRIC ULCER RUNNING AN UNUSUAL COURSE.

By WILLIAM J. MALLORY, M. D., Washington, D. C.

In the discussion of diagnosis and treatment of gastric and duodenal ulcer physicians and surgeons are now in general accord. They all agree that both medical and surgical measures have a place in the treatment, but even with the most harmonious co-operation it is often very difficult to rightly determine in a given case which method to apply.

This is due to the very variable course of the disease. Some apparently mild cases persistently resist all medical treatment, and some with severe symptoms respond in a surprising manner to the simple well-known measures.

In my opinion uncomplicated gastric or duodenal ulcer can be easily cured by the application of the principles involved in the Sippey treatment, namely, protection and neutralization of free acid.

On the other hand, when there is extensive scar formation with either adhesions or obstruction or both, little permanent benefit is derived from medical treatment, but excellent results follow surgical correction of these lesions. Such surgical complications can usually be recognized by a thorough examination of the patient and an intelligent study of the symptoms while the patient is kept on some standard treatment. I would like to emphasize the study of the symptoms as well as the examination. Both are important. When the above named surgical lesions are present surgical treatment should be insisted upon, for it will ultimately be apparent even to the patient that an operation is necessary, and the earlier it is done the more complete will be the restoration. The latter course of some obviously surgical cases is, however, sometimes very surprising, as the following case will illustrate:

Case.—H. W. S., male, age 65, printer. First seen December 15, 1915. For the past 20 years patient has had stomach trouble irregularly, that is, sour stomach and nausea but no pain, with six months intervals of good health. During the last three or four years he was much better till October, 1915. At that time there were almost nightly attacks of distress, soreness, nausea, and voluntary or induced vomiting of sour fluid, sometimes chocolate colored, and sometimes containing food eaten 36 hours previously. The vomiting gave temporary relief. In four weeks there was a loss of fifteen pounds weight. There were constipation and loss of appetite. Weight 124 pounds.

On examination there were found marked visible and palpable gastric peristalsis. After a test breakfast he vomited 200 c.c. of black gastric contents with a total acidity of 56, free hydrochloric acid 20, giving marked reaction for blood, and containing many budding yeast cells and long bacilli.

A diagnosis of chronic ulcer with pyloric obstruction was made, the condition explained and operation urged. The patient positively refused operation but agreed to take any other form of treatment advised. He was then put to bed and given alkalies, belladonna, and small amounts of soft food. The vomiting became less frequent, gross bleeding ceased, and visible peristalsis disappeared. He vomited black material last on December 21, 1915, and had no vomiting at all between December 22, 1915, and February 10, 1916; though pain and pyrosis continued till March 18, 1916. His weight at that time was 132 pounds. On March 22, 1916, Dr. Groover stated that the X-ray examination showed definite signs of ulcer about an inch from the pylorus with signs of pyloric obstruction. He still refused operation as he had gained about ten pounds in weight in the year and was able to work.

On January 27, 1917, his weight was 136 pounds, he was eating a moderate diet, only

avoiding fruits, and was free from gastric symptoms.

On February 1, 1917, Dr. Groover reported, "Examination of the stomach shows a constant deformity of the pyloric antrum, and a six hour residue, amounting to about half the barium meal. The appearance of the deformity is such as to suggest cicatricial contraction from an old ulcer, or malignant growth."

The patient was last seen on August 11, 1917, when his weight in light clothes was 149 pounds. He stated that he was eating everything and had not felt so well in twenty-five years.

This case is not reported as an example of a remarkable case nor is it considered as such but its unusual course under careful observation over a long period of time is a warning with regard to prognosis.

1720 *Connecticut Avenue.*

A RECENT CASE OF CARBOLIC ACID POISONING—WITH RECOVERY.*

By R. M. WILEY, M. D., Salem, Va.

On the afternoon of October 11th, 1917, about four o'clock, I was hastily summoned to attend a young woman who was said to be desperately ill, with symptoms of poisoning. I rushed to the patient at once and, upon arrival, found the following condition and was given the following history:

A young woman, eighteen years of age, was lying across the bed unconscious, apparently in collapse, with muscular tremors and twitchings, practically amounting to a convulsive seizure. A frothy saliva was running out of her mouth; there were marks upon her lower lip and chin, suggesting a burn by some caustic agent, which at once suggested the strong probability of carbolic acid poisoning. This occurred to me, not only from the characteristic blanched appearance of the burns, but from the fact that this drug is so commonly used with suicidal intent, on account of the ease with which it may be obtained for use as a disinfectant.

The patient's pulse was small and rapid, respiration was decidedly labored, and the pupils were contracted. Although undoubtedly unconscious, she was groaning in an incoherent manner and writhing as in the greatest possible agony, which no doubt, she was. Upon my arrival, I found no one present in the house except the patient and a brother—a grown man—who told me that his sister ate a hearty dinner at the usual mid-day hour, after which the mother and the smaller children, who attended school, as well as himself, had gone out of the house, and the patient was left alone. The brother returned to his work but had occasion to come back to his home a few minutes before four o'clock and found his sister in the condition which I have just described.

As before stated, the picture was one of poisoning and the burns upon the lip, cheek, and also upon the tongue, at once suggested to me the strong probability of carbolic acid poisoning, and subsequent developments proved that my presumptive opinion was correct. Remembering that alcohol has frequently in the past several years been found to be antidotal to carbolic acid, both locally and systemically, I at once gave the patient by mouth about one-half of an ounce of pure grain alcohol—all that I had in my emergency grip. On account of the muscular tremors and twitchings, as aforesaid, practically amounting to a convulsive seizure, I was unable to pass the stomach tube and wash out her stomach: but, in lieu of this, I at once administered one-twentieth of a grain of apomorphine hypodermically, and was much gratified by a prompt emesis. Had it been possible to pass the stomach tube, I should, of course, have washed her stomach out, and if I had had sufficient alcohol, I would have done the ideal thing, under the circumstances; that is, wash the stomach out with fifty per cent. alcohol in water, followed by pure water.

Realizing that my patient was in a desperate condition, and also, really believing that death was impending (and I had a right to from the symptoms), I called a consulting physician, Dr. J. C. Darden, who rendered me very valuable assistance. In addition to the administration of alcohol as an antidote and the production of vomiting by administering apomorphine hypodermically, we also gave a soluble sulphate in the form of epsom salts, or magnesia sulphate, to form the harmless resultant phenol sulphate. In addition to this, we administered albumin, flour and water, and olive oil. In regard to the

*Read before the Roanoke Academy of Medicine, at Roanoke, Va., December, 1917.

olive oil, I am at a loss to know whether we acted wisely or not, for some authorities counsel against the use of oils as being dangerous on account of promoting absorption. On the other hand, so good an authority as Bastedo, in his Materia Medica, advises the use of bland oil or fats, as olive oil, cotton seed oil, lard, or butter, basing this advice upon the ground that these oils and fats have far more solvent powers for carbolic acid than the liquids of the protoplasm, so they tend not only to prevent penetration, but also to extract the carbolic acid from the tissues. I do not know which opinion is correct, but olive oil certainly did no harm in our case. We also administered atropin hypodermically, as it is known to be a physiological antagonist to the systemic symptoms, maintaining the heart and respiration until elimination occurs.

The patient remained desperately ill, apparently unconscious, hovering between life and death until fully mid-night, and was unable to speak above a whisper for a day and night. I remained with her from four o'clock until eight in the evening, and was recalled about 11:30 that night, on account of the alarming respiratory symptoms and apparent great gastric pain. These were considerably relieved by the administration of hypodermic of morphia and atropia. I visited the patient regularly from October 11th to October 18th. For the first several days, she suffered, as was expected, a great deal of pain in the esophageal and gastric regions. She also had from time to time a return of the embarrassed breathing. These symptoms were more or less relieved by the routine administration of morphia and atropia. October 18th, all the symptoms had disappeared entirely, so she was discharged as recovered on this date.

Upon finding the characteristic signs of carbolic burns on the lip, chin, and tongue, I set about to verify my opinion as to carbolic acid poisoning. I found, upon questioning the mother, that there had been a bottle of carbolic acid in the house, which had disappeared from its customary place, and the mother, upon instituting search and finding the bottle, noted that there was a decided lessening of its contents. Of this, she was very positive. This was confirmed later when the patient regained consciousness, by the direct statement to me, in response to my question as to what she had taken, that she had intentionally drank two teaspoonfuls of carbolic acid. Authorities differ as to the lethal dose of carbolic acid, but it is thought to be somewhat in excess of a drachm, but the statement is made by several authorities that as little as six minims have given rise to dangerous symptoms.

In reporting this case, I am not prompted by anything new in its treatment, or particularly interesting scientifically, but consider it worth while, as it is a situation that any physician may suddenly find himself confronted with. Carbolic acid is said to be one of the most rapidly acting poisons known, sometimes equaling prussic acid in this respect. The symptoms develop almost immediately and death may occur in a few minutes, but, usually, the patient lives from one to ten hours, rarely over two days. On account of its remarkably quick, fatal effect, and on account of the seemingly hopeless condition of my patient, I naturally felt greatly elated and equally surprised by her recovery.

Practical Points in Current Medicine

Conducted by
PUBLICATION COMMITTEE,
Medical Society of Virginia.

Neurology

Mental Abnormality and Criminality.

The more intensive study of mental deficiency and personal maladjustment made necessary as a part of our preparation for war has advanced psychiatry to a position of extreme importance and dignity in the profession of medicine. Not long ago the medical man outside of an asylum who gave thought and voice to questions of mental deviation from the normal was looked upon even by his professional brethren as a mere theorizer, who was perhaps a trifle cracked-brained himself. But the establishment in most of the military cantonments of clinics in which all enlisted men are being tested by psychological methods is adequate evidence of the Government's approval of the importance and the necessity of the work. Estimates of the quality and quantity of mental efficiency or inefficiency are being made by trained psychologists and psychiatrists, and these estimates are being utilized in the search for officers, commissioned and noncommissioned, suitable for different posts of

duty. War should call to service in line of battle only those who are mentally and emotionally adjustable in high degree, but back of the firing line important and necessary work can be found for those who are mentally less adequate. The responsibility of making estimates of the degree of mental and emotional fitness of the individual human units rests upon the psychiatrist. These psychometric estimates seem of more importance, indeed, than physical examinations, for the war is one of wits rather than of might. It is not strange, therefore, that the Government is unwilling to assume the risk of subjecting a citizen to the danger of defeat, disgrace, or death, until it has acquainted itself with the man's mental capacity to act in conformity with the standard of his associates.

Yet, in contrast, what do we see in civil life? Is not every prisoner supposed by judge and jury to be physically and mentally and emotionally sound? Is consideration ever given to the possibility that crime may be one of the manifestations of mental abnormality? Do not prison records tend to prove that most of the repeaters are mentally defective and in mental age only children? Is a prison the proper place for a mental child? Are the chain-gang and the electric chair to be a part of our kindergarten system? Is it not time for us to find out more about these so-called criminals? May not their anti-social tendencies and outbreaks be looked upon as sign-posts pointing the way back to the disordered and undeveloped and untrained mind, out of which spring all wrong and wretchedness and depravity? Why may not every criminal court have in its service a physical and a mental diagnostician—an internest and a psychiatrist? Why should the state not maintain a medical board of appeal—composed of an internist, a pathologist and a psychiatrist—analagous to the Army Medical Advisory Board, to which a prisoner might appeal for examination? Non-human by-products are being conserved: why not the human?

Jas. K. Hall.

Pediatrics

Pyelitis.

The term pyelitis when used in pediatrics refers to an infection of the urinary tract of sufficient severity to cause pus to appear in the urine. It is one of the most common affections of infancy and childhood, and should always be sought for in determining the cause of an obscure temperature. Where routine analysis is made in the course of regular diagnostic examination, it is astonishing how often this condition is discovered.

It may be primary, but is most often secondary, and it may be secondary to almost any other infection, being particularly frequent after influenza, tonsillitis and infectious diarrhea, especially that seen during the summer months. So frequently is this the case that if there is a sudden rise in temperature after or during convalescence from any illness, the urine should be examined. In a large percent of cases thus studied there will be found an infection of the urinary tract. In some instances several examinations may be necessary before pus is found. In all probability most cases of secondary pyelitis start as an infection of the organism, which is responsible for the primary condition, but in all cases there is a further infection with the colon bacillus, which eventually becomes the prevailing factor, hence treatment should be directed against this organism (discussed later).

There are three theories as to the source of infection of pyelitis: 1, that it is an ascending infection from the external genitals; 2, that it is a blood stream infection; and, 3, that it is by way of the lymphatics. The fact that pyelitis is more frequent in girls than in boys has made opinion lean toward the theory of ascending infection; over against this, however, is the fact that the pelvis of girl babies is richer in lymphatics than boys, and that these lymphatics transmit the infection (especially the colon), directly from the intestine.

The symptomatology is variable. Most frequently we have merely an indefinite high temperature; on the other hand, this condition is frequently mistaken for malaria when careful diagnosis is not made. A typical septic temperature is not common while symptoms resembling many other conditions, especially cerebral irritation, serve to lead us astray.

Treatment.—As has been stated, this should be directed largely to the overcoming of the colon bacillus. This bacillus is facultative in nature, thriving in either acid or alkaline urine, most frequently in acid urine. The safest plan, however, is to begin with alkalies. The citrate of potassium is most frequently

employed. Sufficient amounts of this drug should be given to render the urine rapidly alkaline, so rapidly that the colon bacillus hasn't time to adapt itself to this reaction. If we alkalinize gradually, the infection will continue and we may have to return to acid treatment. Hexamethylenamine is frequently alternated with potash, but must be given with an acidifying agent or it will not yield formaldehyde. Failing to get results from either of these two we must fall back on autogenous vaccines made from a catheterized specim of urine.

LAWRENCE T. ROYSTER.

Internal Medicine

Fractional Analysis of the Stomach Contents.

Fractional analysis has come to stay. It is now recognized that it is impossible to obtain any adequate knowledge of intragastric chemistry without making a complete study of the entire gastric cycle. Best, Talbot, Crohn. Carroll, Pollock, and others, have written on this method and have confirmed the usefulness of this procedure in clinical work. This method is now entirely practical, and, with the assistance of some capable nurse, it is possible to avoid the time or personal contact so essential to the successful conclusion of the study. The objection that it requires too much time can only be answered by the fact that we cannot hasten gastric digestion, and when a patient asks me how long the fractional tube must remain in place, I simply say until the stomach is empty, or some equally non-committal phrase, as "while digestion is going on in the stomach; in some cases this is very short, in others long. Only such an examination as this will settle the point." The trouble is usually not with the patient, as most patients have no trouble with the tube, but with the physician's time, and here, again, I would insist on the fact that anyone can readily be familiarized with the management of the tube. Not only is it possible to make a careful study of the stomach with the requisite leisure, but it is possible to work out the reaction of the patient to various medicaments and to study the effect of the direct application of substances to the gastric mucous membrane. By this means it is possible, with a minimum of discomfort, to apply directly to the mucous membrane substances in greater concentration than can be given by mouth, and then, after a definite time interval, reaspirate the material which might otherwise seriously affect the stomach or bowel.

Fractional analysis should always be preceded by an examination of the empty stomach. This is readily done with the fractional tube and the presence of an increased residuum, the presence of pathological hypersecretion, of food retention, the presence of blood or pus, both swallowed or even from intragastric lesions, should be investigated. Lavage and cytodiagnosis can then be carried out, if desired.

After this the routine method is usually the administration of the Ewald meal, which, for all ordinary purposes, is still the most satisfactory meal for general examination. As Best points out, "the Ewald meal is perfectly satisfactory in every way save in the possibility of the particles blocking the tube and in its low protein content." If the meal is well masticated, the blocking is rarely produced, and if aspiration is performed slowly, the two difficulties of fractional testing, blocking of the tube or traumatic bleeding, are almost entirely overcome. This very gentle aspiration is the most difficult point for the beginner to learn. He usually grasps the distal end of the syringe and begins to suck the material into the syringe with all power possible and then wonders why the material gives a positive occult blood reaction. There are three reasons why material can no longer be aspirated: (1) It is not in proper position, i. e., either insufficient tubing has been inserted, and it must be remembered that the distance of the stomach from the incisor teeth varies in different individuals, or cardiospasm may block the entrance of the tip into the stomach for a short time: (2) the tube may be blocked by food particles, in which case injection of water or even the withdrawal of the tube and its reinsertion are necessary; (3) the stomach is empty, which is readily confirmed by lavage.

The low protein-content of the Ewald meal is really an advantage rather than a disadvantage, inasmuch as pathological protein is readily recognizable in this way. It must be remembered that this form of testing is often as important, if not more important than that of the acid in many cases. Clark and I pointed out that protein in excess of the normal amount found in the secretion must always be explained

either by an intragastric lesion or the swallowing of pathological protein, usually pus or blood. In this way, apart from the water meal, the Ewald meal most readily lends itself to examination. Furthermore, the presence of food retention from previous meals, particularly fat and meat, as well as bacteria, are readily recognized. All in all, the Ewald meal, owing to its short digestive time, its simplicity, and its readiness of preparation and the ease with which it can be measured or standardized, ought to be retained. The meats generally give a higher acid, require a longer time for digestion and are generally not applicable, nor do they offer any real advantage for study. The meal of "Liebig's beef extract," suggested by Skaller, may be used and never clogs the tube, but, in my opinion, the response is not as characteristic as that of the Ewald meal and the curve from our studies varies comparatively little from that of a straight water meal. The water meal, as suggested by Austin, has much to recommend it owing to the fact that water, as Hawk, Bergeim and I have shown, is an actual gastric stimulant and not comparatively inert as Pavlov attempted to show in animals. However, it is true that in some individuals, water will not stimulate the stomach to the same degree as an Ewald meal, while in others it produces maximum stimulation. The Ewald meal is therefore desirable unless it is desired to show up pathological retention or pathological exfoliated products from the gastric wall, cells, pus, blood, etc.—(Extract: *Progressive Medicine*, Vol XX, No. 4, page 26).

Comment—The foregoing remarks concerning the duodenal tube in studying samples of stomach contents during the period of digestion are fully approved of by me. I know no greater addition to diagnostic methods of the stomach digestion and therapy than the duodenal tube. With the assistance of my office nurse, who spares me much time in the course of this work, I frequently continue the aspiration of samples of stomach contents for two hours. There are many advantages which it possesses over the large tube. The patient can easily be induced to take it. The administration is unattended by violent resistance. In case of ulcer of the stomach the danger from hemorrhage is much less. The ease with which it is retained enables one to use it for hours. Every physician who does any stomach work should use this small tube. No internist can study his cases completely without studying the processes of stomach digestion. In the treatment of gastric ulcer it also comes into use. Duodenal feeding is easily practiced with it.

ALEXANDER G. BROWN, JR.

General Surgery

An Apparent Spontaneous Cure of Melanosarcoma of the Glands of the Neck.

June 20, 1915, Virginia B., age 4, was referred to me by Dr. F. K. Lord, of Richmond, Va., for enlargement of cervical glands. The mother noticed the first day of February, 1915, that there was a swelling under the left jaw and thought it began shortly after a case of mumps, which the child had a few weeks previously. About two weeks later the mother noticed that the right side of the neck began to enlarge. The child has always enjoyed good health up to this time, is large for her age, has always been cheerful and bright, and never had any severe illness. Dr. W. F. Mercer examined the patient and reports that the tonsils, adenoids and ears are negative. Examination shows the submaxillary, cervical and supra-clavicular glands on both sides symmetrically enlarged and matted together, but probably a little larger on the left side. The glands are distinctly palpable, confluent, abont the same consistency, softish and are not painful; the skin over the glands is normal. The case was considered to be probably Hodgkin's disease; this diagnosis, however, is thrown out by the report of the blood by Dr. E. Guy Hopkins:

Red blood corpuscles 4,920,000
- Microcytes 0
- Macrocytes 0
- Poikilocytes 0
- Polychromatophilia 0
- Granular degeneration 0
- Normoblasts 0
- Intermediates 0
- Megaloblasts 0

Haemoglobin 80
Color Index 0.81
Malarial parasites 0
Plates normal.
Leucocytes 8,500
Polynuclear neutrophiles 81.5%
Lymphocytes 15.5%
Large mononuclear 2.5%
Polynuclear eosinophiles 0.5
Polynuclear basophiles 0
Neutrophic myelocytes 0
Eosinophilic myelocytes 0

The heart and lungs are negative and no mole is noticed on the surface of the body. The

urine is negative, but for a low specific gravity.

July 7, 1915, a small incision is made at the angle of the left jaw and two small glands are removed, each about the size of a small cherry.

Dr. S. B. Moon, Professor of Pathology at the Medical College of Virginia, makes the following report:

TISSUE FROM NECK.

The sections are composed mainly of actively proliferating embryonal connective tissue cells, mainly spherical, but varying widely in shape and size. An occasional giant cell is seen. The vessel walls are thin or lacking, and when present intimately associated with the tumor cells. In some areas pigment granules, apparently melanin, are abundant in the cell protoplasm. Fibro-elastic tissue, fat and striated muscle are definitely infiltrated by the tumor cells in their advance.

Diagnosis: Melanosarcoma.

The case was considered to be hopeless and the condition explained to the parents.

Six months later, December 25, 1915, Dr. Lord was again called in attendance. The mother stated that the child had been playing as usual about the house, the glands were getting gradually larger, and there was probably some slight emaciation. On the morning of the 26th, the neck was very much enlarged, red and swollen; throughout the day the temperature rose to 106, pulse 180, there was marked cyanosis, embarrassed respiration, evidences of beginning suppuration, but no distinct point of breaking down.

December 27th. Child was unconscious, refused nourishment, occasional vomiting spell, several actions and voided freely. Hot magnesium sulphate was applied to the neck constantly.

December 28th. The writer was called, and under primary chloroform anæsthesia, a median incision was made under the jaw, a drachm or so of sero-pus being evacuated. The child reacted well and appeared brighter in the afternoon. Dr. Moon reports upon the specimen as follows:

Pus from neck is streptococcic, with various saprophytes.

At the time of the operation the floor of the mouth was much infiltrated and raised, the mucosa red, the tongue practically filling the oral cavity, the appearance of the case reminding one of angina Vincenti. The child's wound was dressed for several weeks, it finally healing.

April 5, 1916. Patient returned, appeared anemic; hæmoglobin 70 per cent., white cells 5,600. The glands are distinctly smaller and more discrete. There was no pain on manipulation, and a firm scar was found at the point of incision under the symphysis mentis.

In June, 1916, the family moved to Brooklyn, N. Y. The writer has received the following letters from her mother concerning her condition, which are herewith given.

December 11, 1916. "Virginia is getting along fine, her throat has not given her a least bit of trouble since."

April 14, 1917. "Regarding little Virginia, we are very thankful to say she has not had a doctor since, with the exception of one instance of chicken-pox. On that occasion the doctor remarked what a healthy child Virginia was.

"I mentioned to him of the throat trouble. I did not know the real nature, but mentioned Hodgkin's disease; he stated that was very rare with children. I asked him to examine her blood, but he said that was not necessary, he could see she was in perfect health.

"Today she is a strapping youngster, playing out of doors all the time, never complaining about her throat.

"There is one thing I've noticed, at the time of her trouble she drank an awful amount of water every day, why sometimes during the night it would be two to three quarts. Dr. Lord will tell you this, as I often spoke to him about it. But the last six months she has been fine; now she hardly drinks three glasses during the night.

"I have often wondered whether the water drinking has anything to do with her throat. It was awful at the time, the way Virginia craved for water."

February 1, 1918: "Now, about Virginia. I have spoken to my doctor here several times regarding her throat, and he not knowing the true nature of same, only can tell me she is in good health. She looks fine, eats and sleeps well, plays out of doors and has been going to school for the last year and getting along very nicely."

February 19, 1918, Dr. Wm. H. Slaughter, of Brooklyn, writes the following:

"She is just recovering from whooping-cough but otherwise is in fine health. She is plump and rosy and active. There are no enlarged glands in the neck nor elsewhere. No signs of melanotic growths. If anything new of interest should develop in her case, I shall be glad to notify you."

Melanosarcoma is recognized as one of the most malignant of tumors. When it has appeared as a pigmentated mole on the surface of the body, where early recognition may lead to its complete extirpation, there doubtless have been many cases of permanent cure recorded. On referring to literature the writer is unable to find any reference to melanosarcoma of the glands of the neck which, confirmed by microscopic section in the hands of a competent pathologist, have undergone resolution and apparently disappeared entirely.

Dr. Wm. B. Coley, of New York, in writing to the author concerning this case, states

"melanosarcoma is one of the most malignant and unyielding types we have to deal with. I have never yet heard of a case cured by surgery, and after considerable experience with the radium at the Memorial Hospital we have obtained very little results in this type." He refers to the cure of malignant conditions by the subcutaneous injections of toxins of the streptococcus erysipelatis and bacillus prodigiosus. In one of his papers attention is called to a case reported by Dr. Greenwood, of Leeds, England, which, treated with the toxins alone, was well in five years after the first appearance of the growth.

That this tumer formation should have resolved coincident with the streptococcic infection, which apparently arose *de novo*, would be a strong link in the chain of evidence of the desirability and indication for the use of the "Coley Fluid" in this lethal type of tumor growth.

ROBERT C. BRYAN.

Genito Urinary Diseases

Acidity and Alkalinity in Salvarsan Administration.

Following the administration of over 1.200 intra-venous injections of salvarsan, it has been interesting to observe the variations in the reactions which followed its use. These reactions have been so varied we are forced to the conclusion they are due to varied causes.

Several of our cases have been extremely ill for a short time. Two after severe reactions became deeply jaundiced, suggesting some necrosis of hepatic tissue; one had an acute nephritis, the drug being given twenty-four hours after the patient had taken ether, while another was ill due to the lighting up of a dormant gonorrhœal endo-carditis.

In speaking of the salvarsan reaction, we do not refer to cases as extreme as these, which were unlooked for and due probably to complications, but rather to that reaction which is incident to possibly 50 per cent. of all cases in greater or less degree, and which is only a disagreeable incident, passing way without permanent harm.

We are sure that the reactions obtained were much more severe in the early days of salvarsan therapy than today. In the first six months of 1911, it was the custom to administer a single maximum dose of 6 decigrammes in 300 cc. of distilled water. A little later, Fordyce advocated the use of the smaller dose and the adoption of 4 decigrammes as the maximum dose, materially lessening the severity and number of the reactions. Of course, the lessening of the amount of the drug caused a corresponding diminution in the amount of water used to dissolve it.

With the introduction of neo-salvarsan and its greater solubility, less water was used and Ravant went to the extreme of giving this preparation in 10 to 15 cc. of water, which is almost a saturated solution. This is extreme, but his work brought the average dilution of neo-salvarsan down to about 50 cc., with a corresponding lessening of the frequence of reactions.

Hexheimer early noted an accentuation of some of the cutaneous lesions after salvarsan and this is called the Herxheimer reaction. It is believed to be due to the toxins released by the death of spirochetes in large numbers and this may also be one of the causes of the ordinary reaction. It is absolutely true that we have a more constant reaction in the florid, toxic, case of syphilis than in other stages of the disease.

It is, further, common knowledge that the reaction is most likely in nervous frightened patients. It has been attempted to work out the dosage by body weight and we are told that women take it worse than men, yet the reaction is nothing like so certain in a small, though calm and trustful woman as it is in a large though badly frightened man.

The connection of agitation and the reaction has been further noted in cases who would have none on one injection but a subsequent treatment where more than one attempt is made to hit the vein and some pain given was followed by a severe reaction.

We may, therefore, suggest the following as causes of the salvarsan reaction, leaving out idiosyncrasy and complications:

1. Large dosage.
2. Sudden released specific toxins.
3. Large amount of distilled water.
4. Fright.

The first is not so common today, while the second is limited to one phase of the disease. We believe the majority are due to number 3 and suggest that the fourth is in reality acting to accentuate number 3.

Wechselmann, in a study of the mortality

from the use of salvarsan, included three cases which were due to the blunder of administering the drug intravenously in acid solution. While we have been fortunate enough not to make this mistake, there have occurred at least six such cases in this city. None of these patients died, though one to whom we were called was an extremely ill man. This illness was simply an accentuation of the ordinary reaction, minus the fever. The trouble here was not arsenical but merely acidity, and the symptoms were due to rapid hæmolysis and destruction of the red blood cells.

One of us, with Dr. A. C. Belcher, tested out the effect of different solutions of salvarsan to determine the relative amount of hæmolysis.

The following procedure was employed: Three racks of ten test tubes were set up, each tube containing one-half cc. of a five per cent. solution of human blood cells, washed three times with normal saline. To the first rack was added acid salvarsan dissolved in 120 cc. of distilled water. 1 cc. was added to the first tube, .9 cc. to the second, and so on down. To the second rack alkalinized salvarsan was added in the same manner and in the same dilution.

To the third was added salvarsan which had been dissolved and alkalinized in 50 cc. of distilled water and .9 saline added to bring the amount up to 120 cc., which made the entire solution practically a normal saline strength.

From the reading of this test was shown that a four decigramme dose of acid salvarsan in 120 cc. of distilled water will hæmolize 30 cc. of red blood cells.

The alkalinized salvarsan in 120 cc. of distilled water hæmolized 7.5 cc. of red cells.

With the solution made up with the .9 saline, there was no hæmolysis in any of the tubes. This test proves this last solution to be the correct vehicle for salvarsan and, further, shows a reason for the reaction from solutions commonly used granting the reaction *in vivo* to be similar to the one obtained *in vitro*.

Since acidity has so large a part in this condition, it has occurred to us that this is the manner in which fright and nervousness tend to determine the occurrence of the reaction. Crile's experiments showed that in animals subjected to terror and fright the blood changed from an alkaline to an acid reaction. Whether this acidity would be of a nature to increase the likelihood of hæmolysis is, of course, speculation, but might readily explain the action of fright in such cases.

Thos. W. Murrell, M. D.,
and
P. Lewis Witchley, B. S., A. B., M. A.

Public Health

List Of Bills Passed By Virginia Legislature, 1918, Of Interest To The Public Health.

1. For the prevention of blindness from ophthalmia neonatorum.

Ophthalmia neonatorum is here defined as any inflammation, swelling, or unusual redness in either one or both eyes of any infant, either apart from or together with any unnatural discharge from the eye or eyes of such infant, independent of the nature of the infection, if any, occurring at any time within two weeks after the birth.

It is required that the person in attendance shall report to local health officer, and in the case of mid-wives it is mandatory that they shall withdraw from the case, except when acting under instructions from a qualified practitioner of medicine. Warnings of the dangers to the eye or eyes of the infant must be given the parents or guardians. Necessary treatment in indigent cases is to be provided at the expense of the county, city or town.

It shall be unlawful for any physician or mid-wife to neglect or otherwise fail to instil or have instilled, immediately upon its birth—within two hours—in the eyes of the new-born babe, one or two drops of a solution prescribed or furnished by the Virginia State Board of Health, and to make record of the prophylactic used.

It shall be the duty of the local health officer to investigate or have investigated each case that comes to his attention.

The State Board of Health is directed to provide for the gratuitous distribution of the scientific prophylactic, together with proper directions for administration, to all physicians and mid-wives; also, to furnish copies of this law to all who are engaged in the practice of obstetrics.

Violation of this law is deemed a misdemeanor. Penalty, $10 to $50. $2,500 is appropriated for use by the State Board of Health in enforcing the law. All fines and penalties recovered hereunder are to constitute a special

fund, to be used by the Board as an additional sum for the enforcement of this act.

2. Prohibiting the use of public drinking cups.

The use of the common drinking cup on railroad trains and in railroad stations, public hotels, boarding houses, restaurants, clubs, steamboats, schools, factories, stores or publicly frequented places in Virginia is prohibited. Penalty $1 to 10.

3. To establish a hospital for the treatment of crippled and deformed children, and to appropriate money therefor.

$10,000 a year for two years, to be used by the State Board of Health to establish an orthopædic hospital for the treatment of crippled and deformed children in Virginia.

4. To provide a cottage at Catawba Sanatorium for tubercular teachers.

$10,000 appropriated to build cottage for tubercular teachers, provided $15,000 is appropriated to this fund by the State Teachers' Association. State Board of Health is to have full charge. Admittance on recommendation of State Teachers' Association, under regulations prescribed by State Board of Health.

5. Requiring clerks of courts to make report to the State Registrar of Vital Statistics of all divorces, granted and pending.

6. To require the Auditor of Public Accounts to turn over to the State Bureau of Vital Statistics certain marriage, birth and death records.

7. To prohibit advertising concerning venereal diseases.

Unlawful, except for boards of health or agencies approved by State Board of Health, to put or otherwise exhibit in any place any advertisement or other printed matter concerning venereal diseases. Penalty, $10 to $100.

8. To prohibit the soliciting, aiding or permitting prostitution or illicit sexual intercourse, the use of automobiles or other conveyances for such purpose; to prohibit the keeping of assignation houses and harboring prostitutes for immoral purposes.

9. To provide for the examination and punishment of persons convicted of prostitution, or of keeping houses of ill-fame or assignation, and for the commitment of such persons to city farms or hospitals.

Locations in Virginia Where Physicians are Needed.

Ashburn, Va., Loudon Co., communicate with Dr. J. T. Jones.

Alton, Va., Halifax Co., communicate with F. M. Sibley, Turbeville, Va.

Ayletts, Va., King William Co., communicate with Dr. J. B. Moore.

Abingdon, Va., R. F. D., Washington Co., communicate with Mr. J. D. McChesney.

Appomattox County, communicate with Mrs. Margaret Marshall, R. F. D. No. 1, Stapleton, Va.

Brentville, Va., Prince William Co., communicate with Mrs. H. M. Bowen, Bristow, Va.

Bena, Va., Gloucester Co., communicate with Postmaster.

Blackwood, Va., Wise Co., communicate with Dr. Wm. N. Botts.

Burkeville, Va., Nottoway Co., communicate with Dr. H. S. Smith.

Comers Rock, Va., Grayson Co., communicate with Mr. G. W. Cornett.

Critz, Va., Patrick Co., communicate with Mr. W. King Via.

Crystal Hill, Va., Halifax Co., communicate with Mr. C. L. Palmer.

Cologne, Va., King & Queen Co., communicate with Postmaster.

Charlotte C. H., Va., Charlotte Co., communicate with Postmaster.

Doe Hill, Va., Highland Co., communicate with Dr. H. H. Jones.

Delaplane, Va., Fauquier Co., communicate with Mr. R. C. Iden.

Dovesville, Va., Rockingham Co., communicate with Mr. L. P. Souden, Local Reg.

Delila, Va., Halifax Co., communicate with F M. Sibley, Turbeville, Va.

Denniston, Va., Halifax Co., communicate with F. M. Sibley, Turbeville, Va.

Dundas, Va., Lunenburg Co., communicate with Mr. T. L. Hite.

Earlysville, Va., Albemarle Co., communicate with Mrs. W. B. Scribner.

Faber, R. D. 2, Va., Nelson Co., communicate with E. C. Warwick.

Gladys, Va., Campbell Co., communicate with Miss Mary K. Irby.

Guinea Mills, Va., Cumberland Co., communicate with Mr. John T. Gray.

Gressitt, Va., King & Queen Co., communicate with Mr. H. B. Gayle.

Gold Vein, Va., Fauquier Co., communicate with C. A. Monroe.

Hylas, Va., Hanover Co., communicate with Postmaster.

Hortons Summit, Va., Scott Co., communicate with Dr. R. F. Lyon.

Hickory, Va., Norfolk Co., communicate with Mr. G. W. Eason.

Ivor, Va., R. F. D., Southampton Co., communicate with R. D. Crocker.

Inman, Va., Wise Co., communicate with M. W. Patterson, Gen. Mgr.

Jonesville, Va., Lee Co., communicate with L. L. Willis, R. F. D. No. 2.

Kenbridge, Va., Lunenburg Co., communicate with R. L. Hite.

Lowesville, Va., Amherst Co., communicate with Dr. J. B. Woodson.

Lucketts, Va., Loudoun Co., communicate with Dr. H. P. P. Thompson.

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ENNION G. WILLIAMS.

Proceedings of Societies, Etc.

MEDICAL SOCIETY OF VIRGINIA.

Proceedings of the Forty-eighth Annual Session, held in Roanoke, October 30-November 2, 1917.

Third Day—Thursday Afternoon.

(*Continued from February*, 1918, *issue*).

(The discussion, motions and amendents, incident to the adoption of the Report of the Executive Council, which included the New Constitution and By-Laws, this latter being issued as a supplement to the February issue of the *Virginia Medical Monthly*, are herewith stenographically reported.)

The President.—The order of business at four o'clock is the Report of the Executive Council, and will be read by Dr. Murrell, Clerk. (See Report in *Va. Med. Mo.*, February, 1918).

DISCUSSION.

Dr. E. T. Brady, Roanoke, Va.—I move the adoption of the report of the committee as read, but would like to make one very slight suggestion, which I am sure the Council would permit, that is, in regard to the division of the counties and districts in the Southwest. They say in this report, provided they have the consent of the counties now organized. That is a very reasonable provision which we recognize as reasonable, but we would like to have them add to that, providing they consent or disapprove within 60 days. Now, we have some counties in Southwest Virginia that are, on paper, organized, and men from those counties have been waiting three or four years in order to get admission to the Society, because they cannot get a quorum in order to be elected by their local Society, which is a prerequisite to membership in the State Society. We believe if they do not exercise that privilege in a reasonable time it should be taken out of their hands, and for that reason I would like to suggest to the Council that provision.

The President.—Do you offer that as an amendment to the report?

Dr. Brady.—Yes sir.

Dr. Pedigo, Roanoke.—I second the motion.

(The motion was stated).

Dr. Horsley, Richmond,—60 days from what? State what time the 60 days should begin. Wouldn't it be better to make it a little longer? Sometimes they hold these meetings every two months. Make it four months from the time of the notification.

Dr. Brady.—My understanding is that this Council is going to appoint a committeee to meet with the Southwest Society committee in order to investigate the wishes of the counties, and they will send out a questionaire and the date of this will be counted from the time or date of the sending out of this questionaire. That is my intention.

The President.—Will the gentleman submit it in writing? The chair will suggest a suspension of the rules.

Dr. Southgate Leigh, Norfolk.—I wish to offer an amendment, that is, giving the Council power to act.

The President.—Do I understand the report shall be adopted with that exception?

A Voice.—I hope the amendment will be referred to the Council with power to act.

Dr. Brady.—I would like to second that motion; the only question about it would be the matter of delay. I am sure it is so reasonable that the Council will act favorably on it. I second the motion.

Dr. W. R. Cushing, Dublin.—I happen to be president of one of these defunct Southwest Virginia County Medical Societies. We exist on paper and cannot get a quorum at all. The two main objections to the county organization are these: One is the requirement that a man, in order to be eligible to membership in the State Society, shall be a member of the County Society; and the other is the arrangement to make our local treasurer responsible for the dues of the State Society. We look at it in this way: It is a piece of work that is disagreeable. We have our own dues and collect them. The treasurer of this Society is a salaried officer. and if he cannot collect the dues for the State Society, we do not feel like taking hold.

The President.—(Interposing): The chair would call the gentleman's attention to the fact that he is out of order. The question before the house is on the amendment to the report of the Executive Council.

Dr. Cushing.—This proposition is to consolidate these societies. I take it, the report is only the preliminary report and can be mapped out later on. There is nothing in the report to indicate what counties you want to combine. The Southwest Virginia committee wanted to have the proposition discussed and decided in the Council. Suppose we do not answer the questionaire at all.

The President.—(Interposing): The chair would remind the gentleman the report provides for the creation of a committee to deal with the questions he is raising

Dr. C. M. Edwards. Richmond.—A great many of the doctors here are from the country; if we do not get the country doctor, we do not want any Society, and I am in favor of extending the time so as to hear from them.

Dr. F. H. Smith, Abingdon.—These men are going home tomorrow; grant that 60 days' extension from November 1st, in which the county society is to be heard from. Why should they have to go back to Council?

The President.—The chair suggest it can be dealt with now.

Dr. Brady.—Will you please, Doctor, read that amendment? The response is to be received 60 days from this request; instead of setting the day from November 1, we do not know when the committee will meet; it may be 30 days or two months; what we want is, when we make the request of them, that we get some response within 60 days; otherwise, we have power to act.

Dr Anderson, Farmville.—There seems to be no objection to the amendment; all the house has to do is to vote for it; and I think when they vote for it that settles the question.

The President.—The question before the house is Dr. Leigh's amendment to Dr. Brady's amendment. Dr. Brady, do you accept the amendment?

Dr. Brady.—Yes, sir.

The President.—All in favor say "aye" and those opposed "no"; the ayes have it. Dr. Brady's motion, in the first place, was to adopt this matter, this—

Dr. Brady.—(Interposing): To adopt the report as a whole as amended.

The President.—All in favor of submitting the report to the Executive Council say "aye"; those opposed "no"; it is carried.

The President.—The question before the house now is the consideration of the proposed amendments to the Constitution and By-Laws which the Executive Council has to submit.

Dr. Murrell, Clerk.—Just one word of explanation; yesterday one or two minor points came up. Those points will have to be decided by a four-fifths vote. The constitution can be adopted by two-thirds vote. The council recommends the adoption of the change as submitted, and will make suggestions as to one or two minor changes later.

A Voice.—I move the adoption of the Constitution and By-Laws as printed.

Dr. DeShazo.—Can I offer a resolution now?

The Chair.—Yes, sir.

Dr. DeShazo.— Now?

The Presidet.—The chair understands you have a counter-proposition to present.

Dr. DeShazo.—Yes, sir.

The President.—The question before the house is on the adoption of the Constitution and By-Laws. You would have to offer yours as a substitute.

Dr. DeShazo.—Yes, sir.

The following resolution was then offered as a substitute.

We, the undersigned members of the Modical Society of Virginia, do offer, as an amendment to the present Constitution, the old Constitution and By-Laws in force ten (10) years ago (see Tranactions 1906, pages 354-362). Line 5, on page 361, to read as follows: "The election of Officers and Constitutional Committees and all business to be taken up at 2 o'clock on the third day of the Society meeting and transacted at one continuous session by the Society as a whole.

J. Beverly DeShazo.
R. S. Griffith.
Jas. G. Brown.

The President.—The chair will have to rule that the resolution of the proposed amendment to the Constitution which was submitted will have to be referred to the Executive Council.

Dr. DeShazo.— Mr. President, can I appeal from that decision to the house? You can strangle our property rights off.

The President.—Any one has the right to appeal from the decision of the chair. It is based on the specific statement in the Constitution and By-Laws; "All motions, resolutions and inquiries pertaining to any appropriation for the expenditure of money, or those in any way affecting the general policy or general welfare of the Society or any matter," and so forth.

Dr. DeShazo.—If we are tied up to the Council they are not likely to do anything that is the reason we want to get loose from them.

The President.—The Constitution and By-Laws provide, under a suspension of the rules, the proposed amendment to the Constitution and By-Laws may be brought before the house; under a suspension of the rules a three-fourths vote is necessary.

A Voice.—I will move to suspend the rules.

Dr. Brady.—All of you who have paid any attention to psychological questions know that there is such a thing as———, and all of you who have attended the Society meetings for the last thirty

years know I have a touch of it myself (laughter), but only rarely have I given it full vent. I am sure Dr. DeShazo has a severe attack of that disease, let him talk in support of his resolution and then proceed to vote. (Applause).

The President.—Is there a second to the motion to suspend the rules?

The motion was duly seconded, stated and carried.

Dr. DeShazo.—Mr. President, I thank you for the opportunity. Ten years ago at Chase City the present constitution was adopted by the Medical Society of Virginia. At that time we had 1500 members who paid more than $2300 into the treasury of the Society. At that time we paid our legislative committee's expenses and paid salaries and published a fine volume of Tranactions, a volume in which all papers were published, all transactions, and everything in full, so that those members not fortunate enough to attend the meetings could read and see what was going on. In 1908, here is what was presented, paid for, and we had nearly $1,000 in the treasury. Now, after nine years under the new Constitution, we find the doctors over the country saying. "Here we are in debt, here are members who do not want to attend; interest is lost. Of course, a great many go to have a social meeting, stand in the lobby and talk all the time, but for the Society itself very little interest is taken in the Society affairs, and here is all that is left of the last meeting. (Holds up a small volume of Transactions amid applause). When we are in the wrong road the thing to do is to get back into the old one which is proven by the school of experience.

The advocates of these amendments, by offering so many amendments, admit the failure of the present constitution under which we work. Today they worked all day amending the amendment they sent to us that requires a four-fifths vote to carry it, but tried to substitute a whole lot of amendments and pass it by a two-thirds vote. Gentlemen, all just laws are derived from the consent of the governed. The trend of events, and political affairs generallly, is towards the primary, to the referendum, to magnify the importance of individual responsibility. In all of the leading countries of the earth, except Germany, power begins with the individual and goes up, but not so with this present constitution, but the individual, the common members, are not active in Society affairs, but are passive creatures. Is there any wonder they are losing interest and often fail to attend the meetings? We want to get the country men here. They are losing interest; they say they have no say-so in the affairs, cannot elect officers; everything is presented by somebody else and they stay at home. The whole thing is based on the county society as a unit. Now, to attend the county society entails long rides to many through mud, rain and disagreeable weather of all kinds, with the loss of a day or two for each meeting, and there is expense attached. Then, what is the result? You see a small meeting of the local doctors and railroad surgeons. Gentlemen, you see the county society is sinking; the best men cannot go. The members are too widely scattered and they are sinking individually, and they are dead practically fostered by this new constitution, except on paper, throughout the whole commonwealth.

This new constitution is too cumbersome. Think of 20 officers to transact the business; 15 councilors to transact the business, and on top of this, gentlemen, you must remember that eight men can control the affairs of the Society, and on top of these 20 officers there are 100 society treasurers to collect the society dues. They have their hands full collecting their own bills, and it is no wonder our financial affairs are chaotic, a real political monstrosity. Formerly one treasurer collected sufficient money. Why not restore the old method under the old constitution which will keep us from inevitable bankruptcy? (Applause).

This new constitution attempts to do its work from the top downward, Prussian-like. The Society is the father to his child, the master to his slave. You must be a member of the county Society to join the State Society, and you must let the executive council elect the officers, transact the business and fix the compensation, and so on; then, if you wish to change the constitution the Executive Council must sanction it. If you are not an orator you may never get an amendment except by resolution on the floor.

How can we make this a satisfactory society? Simply by returning it to simple democracy. How, gentlemen? Make it simple democracy in which every individual is on the same basis.

Finally, by abolishing this county society and making the individual doctor a unit, the German principle of government will be given its death blow in Virginia. Why send our armies to France to fight it when we have one right here being administered to our friends in the Medical Society? (Laughter and applause).

This has been tolerated long enough; the voices of our fathers say "Halt"; the sacred rights of Virginia citizens say "About face". For the sake of justice, harmony and prosperity, let me appeal to you to return to the constitution of 1907, restoring the rights to every member in all circumstances, and we can make this Society as glorious in the future as in the past, and pleasing to every member, a pride for every member and a beautiful tribute to its fathers and an everlasting blessing to the state. Restore it, let us not be slaves when we ought to be free! Let us walk in sunshine some of these days! (Applause).

Dr. E. T. Brady, Roanoke.—Mr. President, I enjoyed the exhibition thoroughly (laughter). I want to add just a little to the torrent of words (laughter) and illustrate the proposition, but, verily, the gentleman doth protest too much.

I believe in the council's constitution as presented, not because it is a perfect constitution—there is no such thing as a perfect constitution—and I would call your attention to the fact that the best constitution known to the civilized world is the Constitution of the United States which already has had quite a number of amendments, and it is not yet absolutely perfection.

I believe in the constitution as reported by the council, not because I consider it perfect; I do not consider it perfect; there are a great many points I think could be improved on, but it is so infinitely better than the constitution we have I favor it most heartily. All this question about consistency and autocracy is the most utter bosh. I want to call Dr. DeShazo's attention to the fact that he is insisting upon the impropriety and un-Americanism, and the autocracy of having 100 treasurers collect the dues of this society, when he is asking that not 100 of our members collect the dues, but that one man collect it. Where is your autocracy? Is it consistent?

Now, I want to say in regard to the council, that this council, like the State Medical Examining

Board, has suffered under an enormous amount of criticism that was not their due. This council tries to represent us as well as any council would, and no council can satisfy everybody, but this council has extended our authority and asked on this occasion, without any precedent and without any reason therfor or demand therefor, that the local associations be represented at their meeting on this occasion by a delegate, and those delegates were here and expressed their opinions of this amendment to the constitution. If that wasn't doing everthing in their power to democratize the situation, I cannot see how they could have improved upon it; they have heard the delegates; I appeared before it, and expressed some opinions that they did not adopt, but they did comply with some of our requests and did what every American should do for the greatest good of the greatest number, and I am fully satisfied with the action of that council, and I believe they are not self-styled councilors, but they are elected councilors and they are not only elected councilors of this Society as a whole, but they are elected by the districts individually and they represent the opinions of those districts, and if they do not represent the opinions of the districts it isn't due to the councilor, but to the district. They should have made their wants known through their district councilor. I do not believe that the criticisms made of the councilors are fairly placed at all. There is nothing more. (Applause).

Dr. L. G. Pedigo, Roanoke, Va.—I am in somewhat of an embarrassing position. I have been requested by some of my friends favorable to this substitute resolution to state my views on the subject. Whatever I may have to say on the subject will not be in the nature of a political spell-binder or pyschopathic analysis. My friend, Dr. Brady, and I usually agree on things, but this time we differ somewhat.

Now, to start with, I want to say if I am not consuming too much time in preliminaries, I am thoroughly disinterested. I am not a candidate for anything. (Laughter). In the first place, I do not take the same amount of stock in the universal prating about democracy that Brayn, Roosevelt, Wilson and Taft and other distinguished statesman seem to take. I have a souvenir copy of Jefferson's Complete Writings in my library and I think I know more about it than some of the political spell binders who are speaking on the hustings. I think I appreciate the many-sidedness of that great statesman better than some of them. But democracy is a good thing; people under that can get what they want, but they always need a few leaders—I am speaking of political, not partisan—but they need a few leaders to tell them what they want, otherwise they might not find out, and it is always embarrassing to want something and not know what it is. That is for the mob outside.

The great ideals of democracy are set forth in the Woodrow Wilson style of writing—it is good too—the great ideal is an enlightened democracy. Personally, I do not enthuse over democracy in politics. I believe in the kind of oligarchy or aristocracy we have in Virginia and the South, which settles for this generation the race question, which may never have been settled really, but it makes it easy for the present. But I do have this impression, that we are just a little different. This Society is not a mob taken indiscriminately from the masses of the people, but we are selected upon a standard of education and itelligence. If I do say it, we are above the average standard of the mass of possible voters in a commonwealth, and it does seem to me with the high standards of examinations of collegiate, academic education, which we have prelimiary to the study of medicine, that we might risk democracy far enough in a select body of scientific gentlemen like this to trust ourselves just a little bit further with our own government than we are in the habit of doing of late years. (Applause). That is my plain view of it. I am not by any means an enthusiast for democracy. Dr. Abbott said some time ago that the remedy for democracy is more democracy. I do not believe they tried it in Russia; they had too much there and the remedy seems to be autocracy. There is not a woman in Virginia who is not willing to see her son enlist and go fight for democracy—her theory of the form of government. We are fighting the Germans because they persisted in murdering our women and children on the high seas and had the effrontery to say they were within their rights to do it.

I do think we might trust ourselves a little more with self-government with this enlightened body than we are doing. That is the test in the Society. For a number of years you brought your society to the very verge of bankruptcy and have produced a state among the mass of practictioners in Virginia that it is time something was done about it. Our experience is this; I have never been a partisan on the question, but I do remember something of the system under the old constitution, and it all may have been due to the genius of the late lamented Landon Edwards. (Applause). He was an intimate friend of mine 30 years, as I have been a member of the Society a third of a century, and I know he had one art that is a lost art today, and that is the art of personal correspondence. He was always profuse and generous, and he kept up the interest of the mass of people in this Society all over the State and made it a record-breaker among the State Societies of the United States, and I believe that with this sort of thing that Mr. Alderman or Mr. Wilson would call enlightened democracy that this Society could sail through rather smoother seas than we have sailed through in the last 7 or 8 years. (Applause).

Dr. H. C. Smith, Crewe, Va.—I do not want to be misunderstood. With all respect to the gentlemen who have spoken, I am glad to say that I am not personally acquainted, for one reason—I am not personally acquainted with any of these gentlemen—because if I was intimately associated with one of them you might say I had an axe to grind; you might think I was advocating the things they stood for. But I have had a little experience in business and in organizations of various kinds, and I have found that things work out a great deal better on paper than they do in actual practice, and what we have got to go by is our actual experience and our actual practice. Now, for instance, you take a railroad schedule: It is figured out exactly, all the meeting points are correctly figured out, and if it worked out as it is figured out on paper, it would be very nice, yet I had seven years' experience as Chief Train Dispatcher and I grew gray trying to make up for the defects of those schedules. I know what it means.

When our chamber of commerce was organized in my home town we had a very big banquet and a very elaborate organization, and everything was figured out exactly by various committees. I was

elected president. The first six months we kept so busy trying to hold our committees together that we were not able to do anything, but when we got rid of about three-fourths of the organization and brought up and discussed matters in our public meetings, we were able to accomplish something. I have had a little experience in politics and when we got rid of our political ring and cliques—it was a hard job—we were able to bring matters before the public, and educate the public, and in our old county of Nottoway, which used to have the name of being one of the rottenest counties, politically, in Virginia, we have as clean politics as you have anywhere in the State of Virginia, and on election days we have judges and clerks that no man, regardless of his political party, is not willing to trust his ballot with and feel sure of an accurate count.

Now, there is something radically wrong with our Society, and, to my mind, I think one of the biggest things that crippled this Society is the fact that we made it a requirement that a member must be a member of his County Society to get into the State Society.

I happened to be a member of the State Society before that rule was adopted. Probably I could get in now and probably I couldn't; I think I could, because I believe the people know me well enough to know that all I ask is a fair deal, and if I do not get it I will raise fuss enough to make them ashamed of themselves. But, to take an instance in my own county: There is a man there who happens to be a member of the Society. I know if he hadn't already been a member he could not get in through the County Society. Yet, that man is as honorable as any member this Society contains. But, because he incurred the displeasure of the "powers that be" or the "powers that would be," they would keep him out of the Society. Our organization is a dead organization.

Now, there cannot be a man who would say I have not done everything in my power to make it a live organization. I have attended every organization meeting that has been called by that Society, regardless of the trouble it might put me to to get there, but the result is, we have never done anything, and I find in talking with my friends and acquaintances over the State that this condition exists in a great many other places, and, I believe, gentlemen, that one thing we ought to do is this: we ought not to have that requirement, the requirement that membership in the County Society is necessary to enable a man to get into the State Society, and I believe if we do away with that requirement we will make a long stride forward. I thank you. (Applause).

Dr. W. F. Drewry, Petersburg, Va.—Mr. President, as Chairman of the Council, I desire to make a few statements.

The Constitution and By-Laws, as they exist now, provide for an Executive Council. It does not provide for a house of delegates. Among the proposed amendments, the council has suggested a provision for a house of delegates in order that the representation may come from every section of the State. We know, and every member of the Society knows, that recently there has been some confusion—considerable confusion—because about four years ago there was an effort made and the Constitution and By-Laws were amended to a certain extent. It, however, only went so far. The council is now attempting to remedy the defects as far as practicable according to our judgment. We know we have not presented here today a perfect instrument, but we have endeavored to meet many of the objections. Some of the objections are these:

In the first place, the power is not, or will not be hereafter, entirely in a council of fifteen men who are now selected or elected by the districts and by this Society from the State at large. The government body, that is, the body to which all business matters will be referred, will consist of the council as it now stands purely as an executive committee and a finance committee; but the house of delegates, as a committee of the house of delegates practically, will be formed, to which business matters will be referred. That council can do nothing without the approval from the floor of the entire Society. It cannot adopt a resolution; it cannot adopt any measure until it is brought back to the Society for approval.

As to the attendance on the Society meetings, they have not decreased; they have steadily increased. I have the record in my pocket. The Secretary can also back that up.

In Norfolk last year the attendance was something over 600; in Richmond it was something over 500; in Washington it was smaller.

Now, I do not know how many gentlemen here have read through and through the Constitution and By-Laws that have been suggested by the council. If you will read them through and through you will probably find that some of the objections may have been remedied. Collection of the dues is one of the objections. We have tried to remedy that by doing this: each county society can collect, through its treasurer, its own dues, but, by resolution of that County Society, the State Treasurer may collect the dues directly, so that part has been granted.

Now, I just happen to have the Secretary's report in my hand. There are objections, gentlemen, we know that. We could not correct all the defects. The Secretary writes me from his records there were in Norfolk in 1910, 766; in Richmond, 1911, 388; Norfolk, 1912, 220; Lynchburg, 320; the Washington meeting was small; and at Richmond, year before last, there were 500, and last year about 600, so I have been told. I do not know how many members of the Society we have now, but I understand about 351. This is an unusual year. We have written to the Secretary of every Society practically in this country, and we find the attendance here at the Medical Society of Virginia is large, compared with most of the other States.

When this matter comes up for final adoption, Dr. Kendig, the chairman of the Committee on Constitution and By-Laws, will explain the details. The council has been trying to do its duty under many disadvantages. I hope these objections will be remedied during the next year.

Dr. L. G. Pedigo, Roanoke, Va.—I will make a brief explanation on behalf of myself personally, and I feel I represent others, too; but there has been no intention to criticise the gentlemen who compose the body of this council. This is not a personal matter at all; it is not the men, but it is the system. More and more of it comes out, and it seems we are to have a house of delegates and council that will be equal to the Russian system of soldiers' and sailors' delegates, and they have to send a committee to Moscow whenever a battle starts to see whether they shall fight six or eight hours a day, and then issue the orders.

The thing we object to, Mr. President is increasing the complexity of it. I know that these

gentlemen are honest in reference to a better constitution when they say they have not been able to correct all.

I recall, with sympathy, the mental attitude of a prisoner in the police court here a year or two ago, when the Virginia Confederate Veterans met in the city of Roanoke. Word passed down among the policemen to be gentle with the old fellows, and that if they got drunk on the street not to see them. Every man that came up in the police court for drunkenness was a member of some particular organization of Confederate Veterans, until finally one old fellow marched in and the judge said, "What camp do you belong to?" and he said, "I don't belong to any camp of Confederate Veterans; in fact, I do not belong to any organization on the face of the earth except the Baptist Church, and I am thinking about resigning from that." (Laughter). It seems we are over-organized.

I make this next allusion with the reverence in which I hope you will receive it. When the Saviour of the world left this world He left no organization whatever. We do not always realize that when He left, He left nothing, not even a bed, nothing but impressions upon the hearts and minds of about as many as you could seat in this room.

Organization and then sub-organization, top-heavy organization, is not the best thing for the Medical Society.

Dr. B. R. Tucker.—I am not an orator, but I do not think you can compare conditions of this Society to the conditions in Europe. This is not a question of democracy; it is a business organization. It, of course, isn't personal.

Every organization has to have some organization. The council in this Society can be overthrown on the floor at any time. It seems to me that the changes and amendments as proposed are a distinctly progressive step, and I hope very much that no one will be swept off his feet by Webster oratory, and that these changes will be adopted, and adopted by a vast majority of this body. They are progressive; they are business-like, and the best thing that can be adopted at the present time to cover the situation, and I hope that this body will not overthrow the constitution of this old Society into a chaotic state.

Dr. Folk.—May I have one word?

The President.—Yes, sir.

Dr. Folk.—Why does this Virginia Medical Society exist? For two reasons that I can see, and only two. The first is, that we may better ourselves scientifically by coming together and reading papers and learning. A great many men don't get the chance to take a post-graduate course, and this should be a post-graduate course to them. That is the first and primary reason. The second reason is, that we may have some pleasure to meet our friends, and in the old days take a little nip. The reason for the organization is primarily to get rid of business on the floor of this house so that we may have scientific sessions. The men ought to learn that. That is the reason for it, and if we are going to bring business back on the floor it will mean that business and politics will crowd out the scientific sessions. About twelve years ago, when I first came into the Society, that is the impression I got, and I was glad when business could be relegated to a council or anything else, and get it off the floor of the house and allow us to have proper scientific sessions.

Dr. E. T. Brady, Roanoke, Va.—And the question of attendance at our recent meetings has been raised. I want to state I have been doing some figuring, and I want to say to you honestly that never in the history of this Society have as many men who are non-residents gathered at a meeting of the State Society as are present on this occasion. (Applause).

Dr. M. W. Peyser, Richmond.—I want to make a statement along the same line as Dr. Brady. What is the cause of the attendance. It was the sending out of cards continually. What was the cause of the big attendance in Richmond? They were over there doing the same thing. The attendance in Richmond was the largest in our history. I think some of the gentlemen who have been on the floor have been in error. The Richmond attendance was the largest we have had of doctors; I do not mean, though, of guests and others.

Dr. Walter Cox, Winchester, Va.—As a new member of the Medical Society of Virginia, I am very much interested in everything that is going on today, and as the question of the constitution has been brought up, and the constitution of the United States has been held up as a model, I would like to bring to the attention of the Society that all of the business in the house of representatives is transacted by committees, and our council is nothing but an executive committee of our Society to transact business for us, and I think it would be a step backward, if I may be allowed to express my opinion as a new member here, to try to go back to the transaction of business from the floor, when it is all against parliamentary experience.

Dr. C. M. Miller.—I do not see any better example of the necessity for retaining the council than what we have had this afternoon. We have ruined one entirely good afternoon for scientific work in politicating. It has been said that the Southern man of education and refinement is a natural-born politican. I have been a member of the State Society about 22 years, and during the first 12 years of my membership politics were so fascinating that all the scientific work we got was in the handsome set of Transactions shown us. I would rather get the scientific work here and have a common set of Transactions sent to me.

Dr. Southgate Leigh, Norfolk.—I do not believe that you gentlemen understand the situation, and I hope that Dr. Kendig will, at this stage instead of later on, explain the work of the Special Committee.

Dr. E. L. Kendig.—Mr. President, and Gentlemen: I do not think it will be necessary for me to go into any extensive explanation of the proposed changes in the constitution and by-laws, as copies of this were mailed to every member of the Society several months ago. It is presumed most of them have read those copies before they came here.

I had intended to mention these points after disposing of the present amendment before the house, but as they called on me, I will run over a few of the main points embraced in these proposed changes which the council has proposed, in order not so much to inform you, as we presume they have been read, but to call your attention to the main points provided.

In the first place, the main point is the creation of the house of delegates. These delegates as provided consisted of 15 councilors, as already elected and a delegate representing each of the county societies in the state. The provision is that each meeting of the house of delegates shall be held at such time as not to conflict with the

scientific sessions of the Society. The duties of the house of delegates is a business proposition. They are supposed to handle the business of this society, and after they have passed upon it, it is referred in their report to the membership of the society in general meeting for their approval. In fact, the house of delegates cannot do anything except with approval of the society, yet the house of delegates is to meet and discuss and transact all business of the society.

The executive council is retained as it is now one member from each congressional district, and five members at large elected by the district. The duties of the executive council, under the proposed changes, provide that they shall be members of the house of delegates and shall act as an executive and finance committee of that body. The committees proposed under these charges have not been materially changed. There is a membership committee, only increased to one from each congressional district. A judiciary committee is provided, a legislative committee also. There is also created a program and scientific committee to take care of the program and provide for scientific work. In addition to that, there is a publication committee which has charge of all publications issued by the society. These new proposed changes provided are for any specific publications of the Society, but leave it also for the society to decide whether they want to continue the publications, whether they want a Journal, or what-not.

Another point that is covered by these proposed changes is a fixed connection of the county society with the State Society. A few years ago when the county societies were formed, and formed by amendments to the old constitution, the amendments were tacked in, and they occupied no definite or fixed relation to the State Society. We think in these proposed changes they have a most fixed and definite relation existing between those two. It provides further, that in any county where local organization is too small, that several counties can go together and form an association that would have the same rights as a county society. It provides further, that in any county where there is no local organization, a man in that county can join another county society of his own choice. Another provision of these proposed amendments is the combining of the office of secretary and treasurer. We believe that by combining that office we can do the work cheaper, more effectively, than by having two separate men living in two different parts of the state to do the work. The financial part of it is handled in a more definite manner. As to the dues, the question has been raised by the county societies, and provision is made in there whereby any county society can collect the dues for the State Society, or, by resolution, can place the collection of dues in the hands of the secretary-treasurer of the State Society. And there are various other minor provisions in the change which we believe have been covered, and we take it for granted that most of you have read the proposed changes and know them already. We do not present this to you as a perfect instrument. It would be hard to have a perfect instrument for any body of men—

Dr. C. M. Edwards (interposing)—What will be the size of it when you get it complete?

Dr. Kendig (Continuing)—I do not mean that adding to it will complete it. Perhaps changing it might. We do not present it to you as a complete instrument, or one that is to cover every ill of the Society. The success of any society does not altogether depend on its constitution and by-laws, but upon its officers and members. The success of any organization depends upon that very largely, but we think that these changes we have proposed will help matters and help the officers, and help the members to carry on the business of society in a better way than heretofore.

Now, there is another point as one of the members of the council—and I believe I can speak for remainder of them,—we took this matter upon our hands voluntarily; we do not want to try to put anything over on the Society; we just present it to you as it is and want you to take it into your consideration, consider all the points affected by it and vote accordingly. (Applause).

Dr. Southgate Leigh.—Mr. President, and Gentlemen, I wish to call your attention to the fact that Dr. DeShazo has not been to one of our meetings for so many years that we cannot even find a record of his attendance. He was one of the best workers we had years ago. I mean no disrespect, but I do say it is impossible for a man to intelligently take the stand he has against the opinion of the entire country—not simply Virginia—without having been most intimately in touch with the situation. I would further say that, much to our regret, Dr. Pedigo has also taken a very little active interest in the Medical Society of Virginia for a number of years. I believe he also is not in position to understand the modern situation.

Now, what does Dr. DeShazo want us to go back to? To the constitution before the councilors? Apparently, yes. Between the second Norfolk meeting and the meeting in Lynchburg a few of us investigated the situation of this society and I want to tell you that it was deplorable at that time. You gentlemen who are old enough must remember that the Medical Society of Virginia was controlled and directed from day to day—not simply from year to year—by a man who gave largely of his time to the work. I refer to the late Landon B. Edwards. There isn't another man in the United States who did the work that Dr. Edwards did in advancing the interest of the Medical Society of Virginia. Why did we have such a large membership? Because Dr. Edwards began the day after a meeting to write to every man he could think of, telling him to prepare papers for the next meeting and to arrange his affairs to come. I tell you there is no man living who has done what Dr. Edwards did for the Medical Society of Virginia, and we do not realize it. I realize it because I say I was one of the few before the Lynchburg meeting to look into the situation, and I found that from his death to that time that the Society was steadily going down. I mean no reflection in the world upon our most excellent secretary but how can we expect him to give up so much of his time to the affairs of the Medical Society. It is true he managed the Journal and did other work, but I say he—Dr. Edwards—gave practically his entire time to the affairs of the Society; so, we cannot compare the situation at present unless we can find a man willing to do that much.

Now, we, who were interested in the Society, realized that something had to be done. I was one who vigorously opposed a change in the constitution in Roanoke because Dr. Edwards was against it. I thought we ought to stand by him, and I have lived to regret the day I opposed it, and can see the error of my way, and I know it would have been better had we started the organization at that

time. Every State in the United States has it. Are we wiser than they?

Dr. DeShazo reminds me of a country doctor—not a country doctor, but any doctor—but who graduated 30 years ago and never looked into a medical book afterwards. He doesn't want to keep up with the times. A medical organization is necessary in these modern times. The council is trying to arrange things to suit the members and is trying to meet every proposition called. I suppose they thought everybody knew that meeting was called and every opposition was taken up and settled satisfactorily; and everybody from the doctors all over the state voted unanimously in favor of these changes just at the same time that I understand Dr. DeShazo was reading his paper on that subject in this hall.

I just want to read one passage from the report of your delegates to the American Medical Association.

A Voice.—Is that in order?

Dr. Leigh.—I read it under my own remarks. I have the same right to read that I have to speak.

(Reading.—Your delegates have been deeply impressed with the fact, that the states which are accomplishing the most for the profession are the well-organized ones. There the best laws are in force, the spirit of comradeship is the strongest, and higher medical education is being developed to a marked degree. In all of them the County Society unit is the foundation stone of their work and success. In each of these units, the men get together closely, know each other better, help each other, regulate fees, educate the community in regard to health matters, educate local legislators regarding proper medical laws, form reading clubs, institute post-graduate studies and vie with each other in making better doctors of themselves. These active units together form and direct the State Society and the delegates from each State Society control and direct the great American Medical Association. (Applause).

Several Voices.—Question! Question!

Dr. J. B. DeShazo.—Just a few words, Mr. President: You notice the proposed changes mailed to us as compared to the old constitution is the difference between tweedle-dum and tweedle-dee; all are founded on the county society as a unit to our society; you must be a member of the county society in order to join the state society. You know why the county society cannot be conducted in the country districts where all are so scattered. It is a physical impossibility to get the doctors together. The whole theory is sent down by the American Medical Association. What we want in the State of Virginia is an organization by which control is had by the doctors of the medical association.

Now, in order to keep business from being a bother, we make provision, going back to the old constitution, and provide for the care of the scientific part of the meeting. You all heard it read; it says, "On the third day, at 2 o'clock, the question of election of officers and the transaction of all business of the Society is to be done in one continuous session". Now, there isn't anybody in the world that is not satisfied when you give them two apples instead of one. Now, then, you could give all those days to scientific work and only take one session for business, and you make the individual doctor the unit; we restore universal brotherhood and every man knows he is on an equal footing with other doctors; he comes knowing nothing has been done behind screen doors and the whole thing gets on a perfectly satisfactory basis. (Applause).

They were talking about executive councils; that all the business of legislative bodies is carried on by committees. They are paid by the National Government. Here we have to pay our own expenses. Who has time to go off two or three days and pay railroad fare to elect a council? You see it is a beautiful theory, but in practice the council controls the whole thing. They say it is simply an executive council. For ten years this council has controlled matters. Nine presidents out of ten were named by it. It all comes back to the floor for ratification. If you have only five or ten minutes to vote, who is to blame when ten or fifteen men are against it primarily.

Dr. Leigh reminds me of a partridge with her young. She flutters along apparently crippled until she gets you from her young ones. He never said anything: he said you must be a member of the county society to join the State Society. He says you *must* do. Gentlemen, we are free; there isn't a collar big enough to go around our necks to lead us anywhere. (Applause and laughter).

Several Voices.—Question! Question!

The President.—Dr. DeShazo has the floor.

Dr. DeShazo.—I want to say, in conclusion, that it is a very fine opportunity. The question is one you take home with you, to your heart, to your mind forever. Will you retain your liberty? Will you retain your individuality? Then restore the Medical Society. Those voting "aye" mean to restore our old constitution and democracy. Those voting "no" mean to tie our hands forever, for the executive council now rules.

Dr. R. B. James, Danville.—If Dr. DeShazo was talking to democrats he might fool somebody by engaging in this high-sounding democratic talking.

Dr. H. E. Jones, Roanoke.—I would like to ask Dr. DeShazo one question: Did you ever attend a meeting of a County medical Society?

Dr. DeShazo.—Yes, sir; for a long time we tried to keep life in one by keeping artificial respiration going as long as we could.

Dr. H. E. Jones.—I hope that every one of us realizes that this is a serious question we are going to vote on. Are we voting to sustain the Medical Society in the State, or are we voting for something that will make better doctors throughout the state? It is a delightful thing to attend a county meeting where, when a man reads his paper, the minute he takes his seat every man is interested and nearly everybody present has something to say on the subject, and we go away from those meetings enlightened, benefited and made stronger to do our work.

It is a matter recognized in the church, that no church is stronger than the homes that make up that church. The living in the home is what determines the strength of the church; and the scientific standing in the State Society is no stronger than the scientific standing in the various counties of the state.

To go back to the old constitution would be, to my mind, the saddest thing that we can be guilty of. I think every man should consider well before voting on this question, that we should remember we are trying to improve the man, as we also want large attendances on the Society meetings.

The doctor's reference to the Transactions reminds me of an old officer who would toss up a

silver dollar and a gold dollar and say "It is quality and not quanity that we want in this matter".

Several Voices—Question! Question!

The President.—The question is on the substitute offered by Dr. DeShazo amending our present constitution by adopting the constitution in force ten years ago, in lieu of the amendments suggested by the executive council.

Dr. Southgate Leigh.—I rise for a point of information. I do not know what the doctor refers to. I doubt if ten years would take you back to the years beyond the executive council.

Dr. J. B. DeShazo.—Shall I read it again?

The President.—There is no question about the constitution to which he refers. All in favor of the substitue offered by Dr. DeShazo will say "aye" and those opposed say "no". The "noes" have it and the substitute is rejected. (Applause).

Dr. B. R. Tucker.—I move the adoption of the changes as printed.

Several Voices.—I second the motion.

The President.—All in favor of adopting the amendments submitted by the executive council say "aye" and those opposed "no". The "ayes" have it. (Applause).

Dr. T. W. Murrell, (Clerk of Executive Council).—The Council nominates for Secretary-Treasurer Dr. Paulus A. Irving, of Farmville.

Dr. Southgate Leigh.—I move that the nominations be closed

Dr. E. T. Brady.—I heartily favor the nomination for Secretary-Treasurer with one proviso, and that is that the salary of that officer be named by the Council, and I move that the council be requested to state a fixed sum which they would suggest for such salary.

Now, no one who knows the relations that exist between Dr. Paulus Irving and myself can question the fact that we are true friends, and I am sure that Dr Irving knows me too well to feel I would do anything that would in any wise be a discourtesy to him, and I do feel it is not a personal feeling only, but as the representative of the Roanoke Academy of Medicine, that the salary now paid to the Secretary is unreasonably large and we protest against its continuation, and believe it should be materially reduced, and in the request we made to your council that the salary should be reduced, at the same time the offices were combined, gave the plausible statement on the part of some gentleman that it looked very hard to double a man's duties and cut his salary. Under the benevolent work of Dr. Edwards the salary was at one time fixed for years at $300.00 per year. That is one of the largest salaries paid to any secretary of any State Society in the Uuited States of America, but for reasons which we all endorsed and which we still have no reason to be ashamed of, we raised that salary up to its present status.

A Voice.—How much is it now?

Dr. Paulus A. Irving.— $1,000.00 per year.

Dr. E. T. Brady.—Now, we believe we are not reducing the salary We are doubling the salary when we suggested to the council that it be put at $600.00. That is double the salary the secretary ever received until Dr. Edwards' health declined, and we gave him the increased salary.

In reverting to the old salary we are giving ample for the amount of work done and we are asking that the council do that. The council very appropriately waited until they knew whether the offices would be combined. Now, the question of salary should be fixed by them. I do not propose $600.00 as an absolute sum. It should be less, but I do think we should have some fixed sum less than the present one. If, after that salary be fixed, Dr. Irving is willing to accept it, I would give him my most hearty support.

Dr. T. W. Murrell, Clerk.—The matter of salary would have to be considered by the council and reported back.

The President.—The question now is on question of Dr. Irving for Secretary-Treasurer. All in favor say "aye" and those opposed "no"; the ayes have it.

The President.—Drs. Drewry and Murrell. now is the election of two councilors at large.

Dr. James.—I nominate Dr. W. R. Cushing.

A voice.—I nominate Dr. B. R. Tucker.

Dr. H. C. Smith.—I nominate Dr. DeShazo.

Dr. Brady.—I second the nomination. Whose terms expire?

The President.—I will appoint as tellers Dr. Brady, *Dr. C. P. Jones* (Interposing):—I move that the nominations be closed.

(The motion is seconded and carried).

Dr. E. T. Brady.—I move that the ballots be cast and those two having the highest number of ballots be decuared and the other man dropped.

(The motion is duly seconded, and carried).

The President.—I will appoint as tellers Dr. Brady, Dr. Cox, Dr. Plecker and Dr. Tynes. While the ballots are being prepared, certain nominees were nominated for executive councilors from congressional districts whose terms have expired.

Dr. T. W. Murrell.—I will read it.—Dr. Clarence Porter Jones, Newport News, from the First District; Dr. Alex. G. Brown, Jr., Richmond, from the Third District; Dr. Charles H. Davidson, Lexington, from the tenth District.

The President.—All in favor of the nominations say "aye" and those opposed "no". The ayes have it.

A Voice.—I have a resolution which has been prepared in reference to Dr. M. W. Peyser, who has been our treasurer.

"Resolved, that the Society in dispensing with position of Treasurer by combining the office of Treasurer and Secretary does away with an office, that has been filled most satisfactorily by Dr. M. W. Peyser, and we wish to extend to him our hearty thanks and appreciation of his efforts in behalf of the Society as Treasurer for the past four years.

Dr. W. F. Drewry.—I desire to most heartily second that resolution. Dr. Peyser has been untiring in his efforts to serve the Society ever since I have been connected with the councilors.

Dr. A. L. Gray.— I want to say that the Society is not in debt. through the efforts of Dr. Peyser as treasurer. We have a very good balance.

The President.—All in favor of the resolution say "aye" and those opposed "no"; it is carried.

Dr. Southgate Leigh.—I move that the Secretary be instructed to write a letter of regret and sympathy to D. W. D. Turner.

(The motion was seconded).

The President.—It has been moved and seconded that the Secretary be instructd to write a letter of smpathy to Dr. W. D. Turner and express our regret that he cannot be here with us.

(Same is carried).

Dr. Southgate Leigh.—Mr. President, I move that the executive council be instructed to take such steps as they think best to urge the govern-

ment to try and have the price of drugs, surgical supplies, etc., reduced. I will say, in support of that motion, that it is the opinion of all thoughtful men who know anything about it that the prices of these necessary articles are unreasonably high and it is probably due to the the opportunity that the wholesalers and manufacturers have to impose on the public.

Dr. Anderson.—I second the motion.

The President.—Is there any discussion.

(The motion is adopted).

Dr. E. T. Brady.—Mr. President, the ballots as counted for Councilors-at-large stand:

Dr. J. B. DeShazo:----------37
Dr. Tucker:----------65
Dr. Cushing:----------64

The President.—You have heard the report, gentlemen Dr. Tucker and Dr. Cushing are elected Councilors-at-Large. (Applause).

We now stand adjourned until 8 o'clock this evening.

(*To be continued*).

Editorial.

The Richmond Venereal Disease Regulations.

The present National crisis, which makes man-power vitally important, has made it incumbent upon the organized health forces of the country to actively combat venereal diseases. Syphilis, gonorrhœa and chancroid have therefore been made reportable to the Richmond Health Department in a new regulation, recently published.

The Surgeon-General of the Army announces that 162.4 per 1,000 soldiers of our National Army are infected with venereal diseases as compared with 23.8 for other communicable diseases (excepting measles). The effectiveness of our men in the field, therefore, as well as the vitally important health of the workers at home, depends upon the active help which the doctors give the Health Department in its efforts at control. The tremendous issues at stake should sweep aside all objection to a fight in the open against these diseases, so destructive to the very foundations of society.

The conservatism of physicians has for a long time operated to shield venereal patients at the expense of the general public. A fine co-operation from the doctors in connection with the fight against venereal diseases has been secured in some of our more progressive states and cities. This encourages health officers everywhere to believe that the medical profession as a whole is fully sympathetic with sane venereal control measures.

It is claimed that the measure advocated by the Richmond Health Department, which requires a report by serial number only unless the patient stops treatment before a cure is effected, represents the minimum of what should be attempted. It is a modification of the West Australian law dealing with venereal diseases, which has stood the test of successful operation, and follows closely the plan suggested by the U. S. Public Health Service.

This regulation penalizes no one who honestly wishes to protect others while ridding himself of a dangerous disease. It does, however, put it squarely up to the individual as to whether or not he shall have his disease become a matter of public record.

Under this regulation physicians may now relieve themselves of the onus of being "particeps criminis" in the dissemination of some of the most serious diseases known. It is believed that the vast majority of the profession will welcome the opportunity of passing the problem on to the health authorities, where it legitimately belongs.

Roy K. Flannagan, M. D.

Volunteer Medical Service Corps.

For the purpose of completing the mobilization of the entire medical and surgical resources of the country, the Council of National Defense has authorized and directed the organization of a "Volunteer Medical Service Corps," which is aimed to enlist in the general war-winning program all reputable physicians and surgeons who are not eligible to membership in the Medical Officers' Reserve Corps. The movement has been heartily endorsed by several organizations.

It is intended that the new corps shall be an instrument able directly to meet such civil and military needs as are not already provided for. Medical service in hospitals, medical colleges and laboratories must be up to standard; the demands incident to examination of drafted soldiers, including the reclamation of men rejected because of comparatively slight physical defects; the need of conserving the health of families and dependents of enlisted men and the preservation of sanitary conditions—all must be met in times of war as in times of peace.

It is proposed that the services rendered by the Volunteer Medical Service Corps shall be

in response to a request from the Surgeon Generals of the Army, Navy or Public Health Service, or other authorized departments or associations, the general administration of the corps to be vested in a Central Governing Board, which is to be a committee of the General Medical Board of the Council of National Defense. The State Committee of the Medical Section of the Council of National Defense constitutes the Governing Board in each State.

Physicians intending to join should apply by letter to the Secretary of the Central Governing Board, who will send the applicant a printed form, the filling out of which will permit ready classification according to training and experience. This will be submitted to an executive committee of the State Governing Board, and the final acceptance to membership will be by the national governing board. An appropriate button or badge is to be adopted as official insignia.

Children's Year.

The Children's Bureau of the U. S. Department of Labor, in co-operation with the Child Welfare Department of the Woman's Committee of the Council of National Defense, beginning April 6, the anniversary of the declaration of war by this country, will enter upon a campaign to save 100,000 lives of babies and young children in the United States during the second year of the war. The safeguarding and protection of children is looked upon as a patriotic duty in view of the unavoidable waste of human life incident to war.

State and Federal agencies, either official or voluntary, can make plans and offer suggestions, but each community must bear its full share of responsibility in making the campaign a success.

Quotas have been assigned to the various States, the apportionment being made on the basis of the population of children under five years, according to the 1910 census. The quota of lives to be saved in Virginia has been fixed at 2,529. The two States having the largest quotas are New York and Pennsylvania, with 8,455 and 8,318, respectively, while Nevada has the smallest quota, which is 60.

The Tri-State Medical Association of the Carolinas and Virginia,

Which met in Charleston, S. C., in February, decided upon this city for its meeting place in 1919, and elected the following officers: President, Dr. R. S. Cathcart, Charleston; vice-presidents, Drs. Douglas Vanderhoof, Richmond; L. A. Crowell, Lincolnton, N. C., and F. A. Coward, Columbia, S. C.; new members of the executive council, Drs. Robert C. Bryan, Richmond; E. C. Register, Charlotte, N. C., and F. H. McLeod, Florence, S. C. Dr. Rolfe E. Hughes, Laurens, S. C., was re-elected secretary-treasurer, a position he has most efficiently filled for some years.

Married

Dr. S. Westray Battle, Asheville, N. C., and Mrs. Vinton Liddell, Charlotte, in New York City, February 7.

Dr. Charles Loring Joslin, recently of Baltimore, but now of the medical reserve corps, U. S. A., and Miss Hester Levenworth Riddle, in Petersburg, Va., March 2.

The Southside Virginia Medical Association

Held a most interesting meeting in Crewe, March 12, Dr. P. A. Irving, the new president, presiding. The scientific session began at 2 P. M., at which time several interesting papers were read. After this, the reception committee, composed of Drs. H. C. Smith, W. R. Warriner and S. H. Todd, had arranged for a trip to Piedmont Sanatorium, the State institution for colored tubercular patients. Upon the return from this trip, a most enjoyable dinner, under the auspices of the local Red Cross Chapter, was tendered those in attendance. A public session was held in the evening, at which time addresses were given on Red Cross work and other subjects of general interest.

Dr. C. C. Tennant,

Charlottesville, Va., has joined the Medical Reserve Corps as first lieutenant, and was sent first to Bellevue Hospital, New York City, for instruction, upon the completion of which he was to report at Ft. Oglethorpe.

Dr. Walter Joseph Otis,

Formerly of Memorial Hospital, this city, who was promoted to the rank of captain in the Medical Reserve Corps, is now in charge of the Neuro-Psychiatric examinations at the Recruiting Depot, Ft. Slocum, N. Y. He writes that his work is most interesting and that he hopes soon to be sent over seas.

Dr. J. W. Reed Health Officer.

At a meeting of the Norfolk County, Va., Board of Health, held the middle of last

month in the home of Dr. Franklin D. Wilson, a member of the Board in South Norfolk, Dr. J. W. Reed, of Ocean View, was elected Health Officer of Norfolk County.

Dr. George M. Converse, of the U. S. Public Health Service, was elected director of health affairs for the county.

Need of Doctors for Army and Navy.

At the meeting of the Richmond Academy of Medicine and Surgery, February 26, Major H. D. Arnold, M. R. C., of the staff of Surgeon-General Gorgas, in Washington, but who is better known in professional life as Dean of Harvard Medical Graduate School, discussed informally the problem of medical education in war time, and advocated that all medical students in recognized medical schools be exempted from draft on condition that they complete their medical education, take a year's hospital training and be then inducted into the medical service of the country. One of the great needs of the army is for regimental surgeons.

An appeal has also been sent out by Surgeon General Braisted, of the Navy, for surgeons for the Naval Reserve Force. Doctors in draft age are eligible for appointment, regardless of their position in the new draft.

Dr. and Mrs. Charles V. Carrington

Have returned to their home in this city, after a visit North.

Dr. C. Wilbur Mercer,

Of the Virginia Hospital staff, this city, has been commissioned a first lieutenant in the medical reserve corps, orthopedic division, and left early this month for Ft. Oglethorpe, Ga., to begin active duty.

Dr. H. W. Dew,

Of Lynchburg, Va., has been elected a member of the board of governors of the Piedmont Club, which has been reorganized in that city.

Dr. C. T. Pierce,

Who lives near Nuttsville, in Lancaster County, this State, had the misfortune to lose his barn and stables by fire on the evening of March 4. The loss, including produce, etc., is estimated at about $6,000.

Dr. Marshall Boyle,

Who was one of the school inspectors of this city, has received a commission in the medical reserve corps of the U. S. Army, and has left for Ft. Oglethorpe, Ga.

Hookworm Cases Fewer.

Figures showing excellent results following the campaign waged against hook-worm in a number of Virginia counties a few years ago have just been made public by the State Department of Health. They show in some cases reductions bordering on the sensational and all indicate the essential value to the State of the work already done.

When it is considered that the hook-worm has been one of the greatest foes to the vitality and energy of the people of the rural sections of the South, the wisdom of active continuation of the campaign against the scourge, in light of the results already achieved, is manifest.

Dr. R. L. McMurran,

Of Portsmouth, Va., has been appointed by Governor Davis, quarantine medical inspector for the division of Elizabeth City, for a period of two years, beginning March 1, 1918.

Dr. and Mrs. Julian M. Robinson,

Of Danville, Va., were recent guests in Alexandria, Va., where they attended the marriage of a friend.

Dr. and Mrs. A. H. Deekins,

Of Lynchburg, Va., were recent visitors in Washington, D. C., and Cumberland, Md.

Dr. Deekins expects to go into training at Ft. Oglethorpe, April 1.

Dr. C. E. Busey

Has been elected one of the directors of the Lynchburg (Va.) Automobile Club.

Dr. Edward Le Baron Goodwin,

Of Ashland, Va., left about the middle of February for Fortress Monroe, Va., where he was assigned to active duty in the S. M. R. C.

Visit New York Hospitals.

Drs. E. H. Luck and J. D. Willis, Roanoke, Va., spent some time last month in visiting hospitals in New York City.

Dr. T. F. Gill,

Marshall, Va., had the misfortune to lose his residence in a fire which swept that town on the afternoon of March 10.

The Medical Society of the State of North Carolina

Will hold its annual meeting at Pinehurst. April 16-18, under the presidency of Dr. Isaac W. Faison, of Charlotte. Dr. Benjamin K. Hays, of Oxford, is secretary.

Dr. Carrie Chase Davis,

Who was one of the prominent physicians of Hopewell, Va., is now assistant physician in the Women's Department of the Western State Hospital, Staunton, Va.

Dr. Bertha D. Berger,

For a number of years an assistant physician in the Western State Hospital, Staunton, Va., is much improved after an illness since last September, from pneumonia and complications.

The Quality of Antipneumococcic and Antimeningococcic Serums.

In order that those who use antipneumococcic and antimeningococcic serums shall be assured that such of these serums as are sold in interstate traffic are suitable for therapeutic purposes, each lot of these products made by the various manufacturers is tested at the Hygienic Laboratory of the United States Public Health Service prior to being placed on the market. The quality of antipneumococcic serum is judged by its protective value against Type I pneumococci, using mice for test purposes. Antimeningococcic serum is tested by agglutination and complement fixation tests, such as prove satisfactory by either test being passed.

Dr. A. L. Wilson

Has been elected president of the Lynchburg, Va., Board of Health.

A Number of Medical Officers Dropped from Army.

From the beginning of the war to February 23, 1918, the Surgeon General of the Army has discharged 1,050 officers of the Medical Reserve Corps other than thirty-one removed by death. The discharges are classified as follows: Physical disability, 411; inaptitude for the service, 154; to join other branches of the service, 306; domestic difficulties, 59; resignation, 88; needed by communities, hospitals, schools, etc., 32. In addition to these discharges, there were about 4,000 rejections of applicants for admission to the service. Of 21,740 doctors who had been accepted and recommended for commissions, 13,687 were on active duty February 23. To this date, there were 2,265 promotions of Medical Reserve officers, including some officers promoted more than once.

At the outbreak of the war, there were 877 medical officers—490 regulars and 387 reserve officers on active duty. The total strength of the Medical Corps on February 23 was 15,694—768 regular army medical corps, 13,687 medical reserve corps, 1,207 medical corps, National Guard, and 32 medical corps, National Army.

Augusta County (Va). Medical Association,

The last quarterly meeting of this Association, held in Staunton, February 20, 1918, Dr. A. L. Tynes presiding, was a most interesting one. Papers were read by Drs. M. J. Payne and H. B. Spencer, both of Staunton, and several cases were reported. The Association voted to hold its meeting every two months instead of quarterly, as heretofore, and Dr. W. F. Hartman, of Swoope, was elected assistant secretary, owing to Dr. R. P. Bell's connection with the army. A "smoker" was held at the Y. M. C. A., following the meeting.

Dr. Donald M. McIntosh,

Old Fort, N. C., of the '04 class, Medical College of Virginia, has received a commission in the army and has left his home to join the service.

Dr William Meredith,

Of Gouldin, Va., has resumed his practice after a recent illness.

Dr. E. J. Moseley, Jr.,

Of this city, accompanied by his family, has been enjoying an outing at Old Point Comfort, Va.

Dr. W. W. Chaffin

Has returned to his home in Pulaski, Va., after a short stay in Philadelphia and Richmond. He was accompanied by his wife.

Druggists to Report Sales of Certain Remedies.

The following regulation was passed in January, by the Richmond Health Department, owing to the fact that this city is in the Camp Lee extra cantonment zone, in pursuance of the plan of co-operation for the protection of the health of the troops in camps

and of the inhabitants of extra cantonment zones:

"All druggists and other retail dealers in drugs and remedies advertised to relieve persons suffering from contagious and infectious diseases shall require a receipt of the purchasers of such remedies, giving name and address and the name and address of the individual for whom the remedy is bought.

"The dealer shall report monthly to the health department, on blanks furnished by the department, the names of the purchasers registered.

"A list of the diseases of which a record is desired shall be furnished the druggist or dealer, and the name of the remedies coming within the scope of this regulation shall also, as far as they can be learned, be designated from time to time.

Dr. George Brooks West,

Of the 1916 class, Medical College of Virginia, has completed a course in surgery at Roosevelt Hospital, New York City, and has returned to the One Hundred and Fifteenth Ambulance Corps now stationed at Anniston, Ala.

Lt. J. C. Dunford, M. R. C.,

Who has been serving with the Three Hundred and Fifth Train headquarters and military police at Camp Lee, has received his honorable discharge, owing to ill health, and will return to his home in Portsmouth, Va. He volunteered for service last June.

Dr. R. M. Taliaferro,

Lynchburg, Va., spent some time in New York on business last month.

Dr. Lewis S. Herndon,

Recently of Dover, N. C., who graduated from Medical College of Virginia in 1914, has received his commission as first lieutenant in the Medical Reserve Corps, and is at Ft. Oglethorpe, Ga.

Base Hospital Units Leave for Camp.

About 150 men forming the enlisted personnel of U. S. A. base hospital No. 45, but better known in this section as Dr. Stuart McGuire's unit, left for Camp Lee March 1, in charge of Capt. Jas. Smith, M. R. C., and Lt. J. E. Warinner, Jr., M. R. C. Major McGuire has not yet been called into active service. For the time being, they have lost their identity and are receiving intensive training preparatory to going to France.

Members of the U. S. A. base hospital unit No. 41, of the University of Virginia, left that place on the evening of March 5, for Camp Sevier, Greenville, S. C., where they will receive their training before they will be ready for service across the sea. In the departure of this unit, the University lost its chaplain, one professor, one instructor, twelve students and thirty-three alumni.

Dr. J. H. Hinchman

Was appointed to succeed Dr. E. T. Rucker, who is temporarily disabled from a fall, for the physical examination of registered men of the selective draft of board No. 3, of this city.

Compromise Made in Raise of Health Commissioner's Salary.

Although it was at first recommended that the salary of the State Health Commissioner be raised to $5,000 a year, a compromise was finally agreed upon by which the salary was raised from $3,500 to $4,000. In recommending an increase of only $500 instead of $1,500, as first passed by Legislature, the Governor stated that he did not think in these war times material increase of salaries of high State officers should be encouraged.

Dr. E. H. Thompson,

Bluefield, W. Va., has been appointed a member of the West Virginia State Health Council *vice* Dr. L. H. Clark, Northfork, resigned.

Removal of Two Doctors.

Dr. Z. Leonidas Weaver, recently of Elkton, Va., has moved to Williamsport, Md.

Dr. J. R. Shacklette, who has been located in Nelson County, Va., has succeeded Dr. Weaver.

Dr. John O'Brien,

Formerly of Appomattox County, this State, but recently of Blandville, W. Va., has joined the Medical Reserve Corps of the Army, and is at present at Camp Greenleaf, Ft. Oglethorpe, Ga.

Dr. W. B. Pettit,

New Canton, Va., recently returned from his seventh trip to Europe and Africa. his last trip extending to Alexandria, Egypt. After a few days at his old home, he left about the middle

of February for Newport News, from which point he expected to again sail when occasion demanded.

Dr. J. Fulmer Bright,

Commander of the Richmond Grays battalion, with the rank of major, has been honorably discharged from service by the war department, because of his inability to pass the sight examination. He was in charge of the Grays when they went with the First Virginia Regiment to the Mexican border last year. Dr. Bright's friends regret the necessity for his retirement at the time when his long training would be justified in an opportunity for real action.

Dr. Emmett R. Bradley,

Of Highland Springs, near this city, is much improved after a recent illness.

Dr. Beverley R. Tucker

Was elected a member of the board of governors of Westmoreland Club, this city, at the annual meeting last month.

Dr. and Mrs. Lewis Edwin Harvie

Celebrated the fiftieth anniversary of their wedding at their home in Danville, Va., last month.

Members of Welfare Body.

The mayor has appointed Drs. Roy K. Flannagan, Robert S. Bosher and William H. Parker, all of this city, members of a committee for physical reserve for Richmond. Similar committees throughout the country are working for the physical betterment of the young manhood of the country. The work is inspired by the poor physical condition of a large number of men of draft age as emphasized by examinations of registrants in the first draft under the selective-service act.

Women Physicians Have Part In War.

Women physicians of America, some 6,000 in number, are doing their part in the war through the American women's hospitals, modeled after the Scottish women's famous hospitals. Nearly 1,200 women physicians have been registered for service either at home or abroad. Twenty-three women doctors and technicians are already at work in Europe and several hundred more are ready to sail on short notice for any place where their services may be needed.

Dr. John W. Carroll,

Lynchburg, Va., has been called into the medical service of the country with the University of Virginia base hospital unit.

Dr. R. W. Brown,

Roanoke, Va., is in training in the Medical Reserve Corps at Ft. Oglethorpe, Ga.

Capt. K. D. Graves,

Formerly connected with the bacteriological department of the Richmond Board of Health, was a recent visitor in this city. He is now at Camp Wadsworth, Spartanburg, S. C.

Dr. J. Thomson Booth,

Recently of Gordonsville, Va., has moved to Ashland, Va., where he will be associated with Dr. Henry R. Carter in the practice of his profession.

Automobile Ambulance at Memorial Hospital.

An up-to-date garage has been completed at Memorial Hospital, this city, and an automobile ambulance has been installed. This will be used for emergency cases, to meet patients at railroad stations and to take them home after recovery.

Dr. Wade C. Payne,

Gainesville, Va., has joined the medical reserve corps with the rank of first lieutenant and has gone to Ft. Oglethorpe, Ga. A farewell reception was given him in the Masonic Hall at Haymarket, before his departure.

Dr. H. Taylor Hawkins,

Who practiced at Irvington, Va., for several years prior to joining the Medical Reserve Corps, U. S. A., early last summer, has been commissioned captain and has been assigned to a special commission detailed for tubercular examinations among the soldiers. After leaving Ft. Oglethorpe, he was on duty at Waco, Tex. Following his promotion to captaincy, he was assigned to duty examining the soldiers in the aviation corps at Camp McArthur.

Dr. H. C. Rucker

Has been appointed to instruct a class in Red Cross first-aid at one of the public schools in this city.

Commissioned in Home Guards.

Dr. Charles R. Robins, Richmond, has been appointed by Governor Davis as first lieuten-

ant in the Medical corps, Virginia Volunteers.

Dr. H. Norton Mason, also of this city, has received his commsision as first lieutenant, Company C, of the Richmond Light Infantry Blues.

Hospital Directors Meet.

The general board of directors of State Hospitals and the Colony of Epileptics and Feebleminded of Virginia held its quarterly session in Petersburg, at the Central State Hospital, in February. Reports for the several institutions showed them to be in good condition. The number of patients in all the State hospitals is about 5,000, the Central State Hospital (the only one caring for colored people), leading with 1,773 patients. A thorough inspection of this institution was made by members of the board and the management was highly commended for efficiency and economy. After the meeting, the members of the board visited Camp Lee.

Some Virginia Doctors

Recently noted as visitors in this city are Dr. Robert Kelly, Lynchburg; Dr. William J. Coleman, Mineral; Dr. M. H. Tredway, Emporia, and Dr. G. L. Morriss, Buckingham.

Dr. E. M. Magruder,

Charlottesville, Va., was in Gordonsville recently, on professional business.

Dr. W. J. Strother,

Of Culpeper, Va., was a visitor in Annapolis, Md., last month, to see his son, who is in the Naval Academy there.

Dr. William G. Christian,

Of Hanover and Richmond, recently spent several days in Gordonsville, Va.

Lt. Carrington Williams, M. R. C.,

Of Dr. McGuire's Base Hospital unit, who was recently operated upon at St. Luke's Hospital, this city, for appendicitis, has been improving rapidly.

Dr. A. D. Tyree,

Who is a member of the Medical Reserve Corps, U. S. Army, has gone to Washington to join his command after spending a furlough at Clifton Forge, Va.

Dr. W. W. Bennett,

Recently of West Point, Va., has moved to Blackstone, Va., where he will continue the practice of his profession.

Dr. William S. Thayer,

Baltimore, has returned to this country after several months in Russia as a member of the Red Cross Commission.

Dr. T. E. Armstrong,

South Boston, Va., was a recent visitor in Hopewell, Va., having gone there on professional business.

Dr. William T. Oppenhimer,

Richmond, chief surgeon of the Chesapeake and Ohio Railroad, was a visitor at White Sulphur Springs, W. Va., the last of February.

The Call Is Still For Nurses.

Surgeon General Gorgas, U. S. A., has called upon the American Red Cross to supply 5,000 nurses to the Army Nurse Corps between now and June 1. They are needed for service in military hospitals both in this country and abroad. Nurses may volunteer through their nearest local committee on Red Cross Nursing Service, through the Director of the Bureau of Nursing in their division, direct to Red Cross headquarters, Washington, D. C., or to the Surgeon General's office, War Department, Washington, D. C.

Take Your Choice.

"Thrift stamp drives may come and Red Cross drives may go but the food situation is with us three times a day.

"Three times a day we have the chance to decide whether we shall indulge ourselves to our usual limit of food, or make the small sacrifice asked of us by the Food Administration, that is so absolutely necessary if we are to keep our men in the army strong and well, and if we are to grant to our Allies who must hold the lines for us until we can put our men in the field, the food for which they are literally starving."

Wanted—Eye, Ear, Nose and Throat specialist, now associated in large Western private practice, desires Virginia location. Locum tenens, partnership, group association or assistantship with a well-established ethi-

cal specialist. Native of Virginia; 33, married, good habits and address; licensed Virginia; excellent ability, training and references. Honorable physical exemption further military service. Correspondence invited. Address J. L. W., 1339 Fifteenth Street, N. W., Washington, D. C. (Adv.)

Obituary Record.

Dr. John Robinson Gildersleeve.

Friends of Dr. Gildersleeve will learn with regret of his sudden death March 5, from heart disease, with which he had suffered for several years. "Young of heart" and genial in manner, he had many acquaintances and friends throughout this section.

Though born in Charleston, S. C., he spent his boyhood days in Richmond and, upon retirement from practice, made his home in this city for the greater part of each year. Had he lived until June, he would have been seventy-five years of age. His interment was in Hollywood Cemetery, Richmond.

He attended University of Virginia for the session of 1860-1861, at the end of which time he, with the other members of his class, entered the Confederate service. He later completed the study of medicine at Medical College of Virginia, from which he graduated in 1864. Upon the close of the war, he located in Tazewell, Va., and soon became one of the prominent physicians of the southwestern section of the State. He was the recipient of many honors from the people in his adopted home and was identified with the lay as well as medical interests of that community. He was a member of numerous local and other medical societies. Dr. Gildersleeve's was a familiar face at the meetings of the Medical Society of Virginia, of which he was a charter fellow and ex-president. He was also at one time a delegate from the Society to the American Medical Association and an ex-president of the Tazewell County Medical Society.

His wife, who was Miss Elizabeth Witten, of Tazewell County, Va., preceded him to the grave by nearly two years, but he is survived by a large family connection.

Dr. Frank Marshall Reade,

A well known physician of this city, and for a number of years a member of the faculty of the Medical College of Virginia, died February 26, after an illness of several weeks. His death was due to chronic Bright's disease. He was born in Springfield, Mass., 55 years ago, and came to Richmond when a young man. He first studied pharmacy, and, while teaching in this branch at Medical College of Virginia, took up the study of medicine, graduating in 1899. He was connected with the faculty in the departments of materia medica, therapeutics and obstetrics, until the amalgamation of the two Richmond medical schools. At the time of his death he was a member of the visiting staff and chief obstetrician to Virginia Hospital. He was for several terms a member of the Common Council of this city, and took an active interest in municipal affairs, especially those pertaining to the public health.

Dr. Reade is survived by his wife and one daughter. He was very prominent in Masonic circles and his funeral was conducted with Masonic rites.

Dr. James G. Riddick,

At different times mayor, health officer and city sergeant of Norfolk, Va., died at his home in that city, February 15, at the age of 56 years. He was a graduate of the College of Physicians and Surgeons of Baltimore, in 1883, and was formerly a member of the Medical Society of Virginia, before he retired from active service. His widow and two daughters survive him.

Dr. Richard H. Alfred,

A retired physician of Dayton, Va., died at his home in that place February 19. He graduated from Victoria University, Medical Department, of Toronto, in 1862, later studying at several colleges in the United States. He was the founder of the Delta Tau Delta fraternity. Dr. Alfred moved to Dayton about twenty-five years ago. He is survived by his wife and two children.

Dr. Samuel G. Dixon,

Commissioner of Health of Pennsylvania, and president of the Medical Society of the State of Pennsylvania, died at University Hospital, in Philadelphia, February 26, aged 66 years. He graduated from the University of Pennsylvania School of Medicine in 1886. Dr. Dixon was recognized as one of the leading men of this country in health work.

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